This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`

gift of

Mrs. John Mitchell

LELAND STANFORD JUNIOR UNIVERSITY
ORGANIZED 1891

STANFORD UNIVERSITY LIBRARIES

Walery, Photographer. 1

THOMAS HEAZLE PARKE.

MY PERSONAL EXPERIENCES

IN

EQUATORIAL AFRICA

AS

MEDICAL OFFICER OF THE EMIN PASHA RELIEF EXPEDITION

BY

THOMAS HERBERT PARKE, HON. D.C.L. (DURH.)

With Map and numerous Illustrations

NEW YORK
CHARLES SCRIBNER'S SONS
743-745 BROADWAY
1891

[All rights reserved]

WDR

MY PERSONAL EXPERIENCES

IN

EQUATORIAL AFRICA

AS

MEDICAL OFFICER OF THE EMIN PASHA RELIEF EXPEDITION

BY

THOS. HEAZLE PARKE, Hon. D.C.L. (Durh.)

HON. FELLOW ROYAL COLLEGE OF SURGEONS, IRELAND; FELLOW ROYAL SCOTTISH GEOGRAPHICAL SOCIETY;
HON. MEMBER OF THE GEOGRAPHICAL SOCIETIES OF BELGIUM AND ANTWERP;
CORRESPONDING MEMBER OF THE TYNESIDE GEOGRAPHICAL SOCIETY:
HON. ASSOCIATE OF THE ORDER OF THE HOSPITAL OF ST. JOHN OF JERUSALEM, ETC., ETC.;
ARMY MEDICAL STAFF.

With Map and numerous Illustrations

NEW YORK
CHARLES SCRIBNER'S SONS
743-745 BROADWAY
1891

[*All Rights Reserved*]

DT
361
P23

LONDON:
PRINTED BY WILLIAM CLOWES AND SONS, LIMITED,
STAMFORD STREET AND CHARING CROSS.

TO

MY PARENTS,

MANY OF WHOSE MOST ANXIOUS HOURS

HAVE BEEN ASSOCIATED

WITH THE INTERIOR OF THE DARK CONTINENT

I now dedicate this

DIARY

KEPT DURING MY WANDERINGS IN ITS MAZES

PREFACE.

THE following pages contain the journal which I kept during the period of my connection with the Emin Pasha Relief Expedition. Being desirous to give my original impressions of persons and things, I have made no change whatever in the contents of my African note-books, excepting the necessary ones in the elementary departments of orthography and syntax. I have inserted, here and there, a few paragraphs containing my views on the principal diseases which I was called upon to treat. The remainder of the text I regard as supplementary, in some measure, to Mr. Stanley's volumes. Excepting 'Darkest Africa,' no other journal of the entire course of the expedition has been published, and no account of our experiences at Ipoto and Fort Bodo has hitherto seen the light in any shape.

The pressure of professional duties has delayed the publication longer than I could have wished: the history of the diary itself will, I trust, be, to the indulgent reader, some slight excuse for its many shortcomings in style and arrangement.

INTRODUCTION.

THE greater part of my professional experience has been connected with the continent of Africa. My commission in the Army Medical Staff dates from February 5, 1881; and—having volunteered for active service in the Egyptian campaign—I left England in the September of the following year. I was first stationed at Alexandria, where the exigencies of warfare, and the calls of pressing professional duties, did not prevent me from receiving a great deal of hospitable kindness and attention from the foreign residents of that venerable metropolis. In addition to the necessarily large proportion of bullet wounds, and the other surgical injuries connected with the use of modern weapons of destruction, I had there a very large medical practice in the treatment of malarial fevers, gastro-intestinal inflammations, and fevers of a purely enteric (typhoid) type.

In addition to the historical and classical associations connected with Alexandria, which will always tend to make it so attractive to the European visitor, the cosmopolitan character of the present population of the city makes it extremely interesting to the student of humanity. A large centre, in which the majority of the intelligent inhabitants speak at least half a dozen languages, affords peculiar facilities for the interchange of ideas on most subjects of public and private interest. The former predominance of French influence is still largely reflected in the tone of polite society and the prevalence of the language; and, undoubtedly, has conferred much liveliness and *esprit* on the members of the educated classes. This character contrasts forcibly with the sleepy, apathetic existence of the great majority of the natives, who are under the continuous influence of hasheesh, and who appear too lazy to brush away the flies from the lids of the single eye with which so large a proportion of the population is provided. One of

the most dispiriting impressions which I received during the early days of my residence was that made by the information that this monocular character is artificially given to the (male) Egyptian visage in order to avoid the dreaded "*conscription.*"

The enormous preponderance of intestinal diseases of every class, which is so characteristic of medical practice in subtropical climates, was well exemplified in my Alexandrian—as indeed it was in the rest of my Egyptian—experience. Of the field-service which I saw during this earlier period, the most important event was the surrender of Kafir Dowar. After the Campaign of 1882 I received the Queen's medal, and also the Khedive's star.

Of my duties in Egypt during the year 1883, the most important, by far, were those connected with the terrible outbreak of cholera and its 50,000 victims. During the height of this fearful epidemic 600 natives died daily at Cairo alone. At this time—during the months of July and August—I was senior medical officer in the cholera camp at Hilouan, near Cairo, and the ravages of the disease were testified by the record that, of the total number of those struck down by the infection, a percentage of 29·03 only recovered. My recollection of this period is also permanently associated with the fact that one of my dearest friends in Egypt, Surgeon C. B. Lewis, succumbed to an attack within a few hours of the development of the first symptoms. Another sad event which occurred at this time, and which made a deep impression on all who had been brought into contact with her, was the lamented death of Superintending Sister Jones. As this lady was driving from the camp to the hotel for luncheon, the horse bolted, the carriage overturned, and she was dashed violently to the ground. The base of the skull was extensively fractured, and death was instantaneous.

Towards the end of 1883 I returned home, and was stationed at Dundalk (Ireland) till September 26, 1884, when I exchanged, and volunteered again for active service, so as to join the Nile Expedition for the relief of General Gordon. I arrived in Egypt on the 7th of October, 1884, and left Cairo for the front on the 10th of the same month. In medical charge of the Naval Brigade, under Lord Charles Beresford, I crossed the Bayuda desert, was present at the battles of Abu

Klea and Gubat, and the attack on Metammeh. Of the deplorable consequences which followed the delay of the steamers at Metammeh from January 21st until the 24th I do not wish to speak at any length, although it will always remain the central fact on which depended the sad events of the fall of Khartoum and the death of its hero, which have spread so dark a shade over that portion of contemporary British history. If even *one* steamer had been despatched to Khartoum on the 21st of January, 1885, I believe it would have been the means of saving the life of General Gordon.

Gordon himself indicated, I believe with accurate judgment, what should have been done to save Khartoum and himself, when writing on the previous 14th of December :—" If some effort is not made before ten days, Khartoum will fall. All that is absolutely necessary is for fifty of the expeditionary force to get on board a steamer, and come up to Halfeyeh, and thus let their presence be felt. This is not asking too much, but it must happen at once, or it will (as usual) be too late." The event proved the prophetic foresight of the writer. The importance of hastening some portion of the force, at least, onwards to Khartoum without delay was evident enough then ; but it has struck me with new force every time that I have heard or read a new attack made on Mr. Stanley for hurrying forward with his advance column from Yambuya. The unflinching determination of our leader to sacrifice all minor considerations to the attainment of the one great object of our Expedition has, I think, been fully justified by the result obtained.

Of the five officers (including myself) who crossed the Bayuda desert with Lord Charles Beresford : two were killed, one was severely wounded, Lord Beresford himself was slightly wounded in the hand ; I had the good fortune to be the only one who escaped without a scratch. At the close of the campaign I received two clasps (" Abuklea " and " The Nile ").

After the retirement of our troops from Metammeh I was in medical charge of the Guards—Camel Corps—for a few months ; and, at the end of this period, accompanied the Corps down to Alexandria, from which port we then prepared to return to England. We had actually got on board ; and, just as the vessel was moving off, I received orders to disembark, and return to duty at Alexandria. So I was obliged to have my

few articles of baggage hastily brought back to land, and again resume duty on the African continent.

I was now growing rather weary of my Egyptian experiences, and wishing for a change to some other region. Still, both the great cities of the land of the Pharaohs have very many social and other attractions, each in a peculiar line of its own. Some of the brightest hours of my life had been spent in Alexandria and Cairo. The general style of the latter city is more oriental. It is rich in "diplomatique" circles, abounds in consuls-general from (apparently) every part of the civilised world, and is becoming an important centre for tourists, as well as a health-resort for arthritic, pulmonary, and neurasthenic patients.

I had settled down once more into the social and sporting life of Alexandria, when the series of events commenced of which the details are given in the following pages.

CONTENTS.

CHAPTER I.

FROM ALEXANDRIA TO CAPE TOWN.

PAGE

Meeting with Major Barttelot at Alexandria, who furnishes me with an introduction to Mr. Stanley—An unsuccessful call on the explorer—The Alexandrian Hunt Club—Interview with Mr. Stanley at Cairo—Indefinite leave of absence granted me by the authorities—The contract of engagement for the Emin Pasha Relief Expedition—Preparations for the start—Farewell banquet at the Khedivial Club—My servant Mohammed—At Zagazig I meet Mr. Stanley and Dr. Junker—Tel Basta—Suez—Introduction to my fellow-officers—Our Nubian soldiers—Amputation of Mohammed Doud's finger—Embarkation on the S.S. *Oriental* at Aden—The contingent of Somalis—Description of Aden—A case of small-pox—Vaccination of all the members of the Expedition—Temperature in the Indian Ocean—Gymnastics of the *flying fish*—Rules for the preservation of health in the Tropics—Bleached bones at Lamu—Mombasa—Arrival at Zanzibar—Dr. Hussey introduces me to the famous Tippu-Tib—Our Zanzibaris—We embark on the S.S. *Madura*—Free fight between the Soudanese and Zanzibaris—Mr. Stanley distributes the men among the officers—Tippu-Tib to be appointed Governor of "Stanley Falls"—Copy of "General Orders" issued by Mr. Stanley—The men's daily rations—My professional experiences on board the *Madura*—Small-pox in Africa 1

CHAPTER II.

FROM CAPE TOWN TO LEOPOLDVILLE, VIA BANANA POINT.

Accident to one of Tippu-Tib's Zanzibaris—Our reception at Cape Town—Letter from Surgeon-General Faught—My sick patients on board ship—Conclusion of the work of vaccination; remarks thereon—Packing together my baggage and medicines for the march—Deaths from pneumonia and heat-apoplexy—We arrive at the mouth of the Congo—Zanzibari burial service—Banana Point Cemetery—The Congo River at Ponta da Lenha—Boma—Camp at Mataddi—A recovery from brain concussion—Carelessness of the Zanzibaris as regards their invalids—Some cases of sunstroke—The start for Leopoldville—Crossing the Mposo River—Palabalia Mission Station—The march to Congo la Lemba—Fording the Bembezi River—

PAGE

Illness of Mr. Stanley—Kind entertainment at Banza-Manteka—I lose my waterproof coat in crossing the Kwilu River—Heavy rains —Delays caused through the straggling of the Zanzibari carriers— Mutinous attitude of our Nubians at Lukungu Station—Some rifles missing—Fever among the Somalis—We bridge the Npoko River—A provoking misadventure—Major Barttelot and the Soudanese—The African elephant—Arrival at Lutete Mission Station —Ivory caravans—A native market—By the aid of the steel-boat *Advance* we cross the Inkissi River—An unpleasant drenching, causing subsequent illness—We reach Leopoldville—Engagement of the Upper Congo River steamers—Visits and presents from local chiefs—Major Barttelot and I, with our companies, embark on the stern-wheeler *Stanley*—*Chikwanga* or native bread—Palavers with native chiefs in order to obtain guides—Incidents of the march to Mswata—We employ our time by cutting wood for the steamers 25

CHAPTER III.

THE RIVER JOURNEY FROM MSWATA TO YAMBUYA.

Arrival of the steamers at Mswata—Kwamouth Station—Tobacco cultivations—Elaborate hair-dressing of the men—Colour of the Kwa River—Stalking game in the early morning—I shoot a hippo —The *Stanley* steamer—We reach Bolobo—My uncomfortable quarters on board the *Henry Reed*—Lukolela mission station— Illness of Jameson and Nelson—Zanzibari grievances—Profuse vegetation on the Upper Congo banks—The Mohammedan fast of Ramadán—Equator Station—The "Black River"—The natives of Uranga village—Entertainment at Bangala Station—Death of Fathel Mohammed—Our Somalis again ill—Orchids and monkeys in the forest—Hostile demonstration at Upoto—The rite of "blood brotherhood"—Stanley's epithet, "Bula Matari"—Upoto women —We enter the cannibal regions of the Upper Congo—Idols and ornaments of the natives—Collapse of the *Stanley* deck-houses— Grass fire adjoining our camp—The burnt village near Yalumbo— The Aruwimi River—Stanley's black boy, Baruti—Canoes at Basoko—Warlike attitude of the natives—Arrival at Yambuya, where we land by stratagem—The native huts—Baruti and others desert us, returning to Basoko—Our camp is placed in a state of defence—Mr. Stanley's future plans—Manioc fields at Yambuya— Major Barttelot arrives with the *Henry Reed*—Tippu-Tib's station at Stanley Falls—Cutting fire-wood for the steamers—Our fortified camp—Lieut. Stairs sick; anxiety regarding his condition—Preparations for the march to Lake Albert Nyanza 49

CHAPTER IV.

FROM YAMBUYA TO AVISIBBA.

The Advance Column—Order of marching through the forest—Good-bye to Barttelot and Jameson—Brush with hostile natives—We cut our way through the bush—The forest a conservatory of malaria—Major Barttelot's force at Yambuya camp—Wounds caused by poisoned spikes stuck in the ground—Tedious progress

PAGE

through the forest—Zareeba enclosures for defence of our camps—Game pits and elephant tracks in the forest—The trees and their foliage—Annoying obstacles on the march—Capture of a goat—We launch the *Advance* and follow the course of the river—The natives and sanitation—Deserted villages—Ethnological curiosities of the district—Aruwimi Falls—An army of ants—My personal baggage—Different forms of native hut construction—A forsaken baby—Forest tornado—Nelson and Jephson down with fever—Further casualties through poisoned wooden spikes—Mr. Stanley takes observations—A man shot through the femoral artery—Fording swollen rivers—Hornets' nests suspended from the branches of trees—Scarcity of food—We meet some friendly natives—Continuous rows with our cooks—A hard day's work with the advance guard—Abundance of game in the forest—Strange finds in the villages—Zanzibari method of cooking fowls—Ticks and "jiggers"—Fine features of the natives—Accident to our biscuits—Heavy rains—We buy food from the inhabitants of Mugwye's village—Elephants' tusks used for native seats—First quadruped meat for a month—Canoe accidents in the Aruwimi—Welcome capture of goats by Mr. Stanley—Panga Falls—Weak state of our men from ulcers—We forage for food—A dead man prepared for burial—African chickens—A Zanzibari shot near our camp—Sharp engagement with the natives at Avisibba—Lieutenant Stairs wounded by a poisoned arrow—My treatment of the wound 71

CHAPTER V.

FROM AVISIBBA TO UGARROWWA'S CAMP.

Lieut. Stairs' condition—Further heavy rains—Gigantic game-pits—Guided by a native we are led out of our way—Lost in the forest—Saat Tato to the rescue—Effect of the cold and wet weather on our Zanzibaris—We are attacked by natives—Results of foraging against orders—Some cases of tetanus among the men—Fire in a neighbouring village; anxiety regarding our baggage—A perfect ant-bed—I arrive at Stanley's camp—Medical inspection of the men—Meeting with the river column at the junction of the Nepoko and Aruwimi—Our camp at the Falls—Amputation of Juma's foot—Depressing effect on the men of perpetual forest marching—Our donkeys—The last box of biscuits missing—Carrying the steel boat *Advance* around the cataract—My surgical dressings box—An Arab salute—We fall in with Ugarrowwa and his ivory hunters—Shocking scene in a village—Mr. Stanley develops symptoms of dysentery—Dangers of camping near malarious marsh or swamp—Numerous desertions of the men, taking with them their rifles and ammunition—Scarcity of food—Progress of our river flotilla—Tremendous downpour of rain—Another Arab encampment—State visit paid by Mr. Stanley to the Chief—Contrast between our men and the burly Arabs 93

CHAPTER VI.

FROM UGARROWWA'S TO IPOTO.

We barter with the Arabs for food—Our sick are left in their charge—Ugarrowwa captures three deserters, of whom we make examples

PAGE

—[illegible] village—Another big [illegible]—[illegible] the rumba [illegible]—[illegible] [illegible] [illegible]—Welcome discovery [illegible]—[illegible] start from [illegible]—[illegible] [illegible]—We [illegible] from [illegible]—[illegible] lose an [illegible]—Forgotten [illegible]—We traverse very [illegible]—[illegible] [illegible]—In the wrong track: our [illegible]—[illegible] [illegible]—Nelson and the sick are left behind [illegible]—[illegible] [illegible]—I have [illegible]—[illegible] [illegible]—My [illegible] [illegible] [illegible]—Our second [illegible]—[illegible] [illegible]—[illegible] [illegible]—Jephson deserts, [illegible] [illegible]—[illegible] [illegible]—[illegible] [illegible]—[illegible] [illegible]—I approach the [illegible]—We [illegible] [illegible]—[illegible] [illegible]—Mr. [illegible] [illegible]—[illegible] [illegible]—We [illegible] [illegible]—My [illegible] [illegible]—Arrive at the [illegible]—[illegible] [illegible]—Deserted by the Manyuema .. 110

CHAPTER VII.

EXPERIENCES WITH THE MANYUEMA AT IPOTO.

We [illegible] fed from the Arabs—Our men tormented by ticks—*Vermin in the village huts*—Punishment of Zanzibaris for stealing *and arrest of Complete*—Uledi arrives with the *Advance*—Mr. Stanley *makes* arrangements for Captain Nelson's relief—Our *future plans*—The ivory hunters—Jephson and carriers start for *Nelson's camp, while* Stanley continues the march to Lake Albert

I am left at Ipoto with twenty-eight starved Zanzibaris—Letter *regarding some deserters*—My orders from Mr. Stanley—A welcome *gift*. Convalescence of the Manyuema—My occupation of repairing rifles. *Jephson and Nelson* arrive in camp—Nelson a living skeleton. We fail to obtain food from the wretched Arabs—Jephson decides to follow after Stanley—I write a letter to our leader explaining my position at Ipoto—Attempts to steal our goods—My hut is fired by the Arabs—Ismailia's pretended innocence about the fire. Further desertions and losses of rifles—Return of Chief Sangaramenl from a raiding excursion—Our various methods of obtaining food. Visit to Sangarameni—Mohammedan customs

Chief Khamis returns from a raiding expedition—We pay an official visit to the chiefs; Mr. Stanley's agreement with them regarding food not carried out. Ivory and slave trade in Africa—Plot of disagreeable insects. Illness of Chief Khamisi—Starvation among our men. We are refused ground for planting corn and beans. Chief Ismailia returns with his banditti—My field-glasses are exchanged for food. Attempted theft of a box of ammunition

The chiefs still starve us. Nelson's shocking condition—Ismailia accepts my suggestion that we should all be "friends" 125

CHAPTER VIII.

FURTHER EXPERIENCES AT IPOTO.

PAGE

The Manyuema hear false news regarding three guides supplied to Mr. Stanley, whereby our lives are endangered—Letters to hand from Stanley and Jephson—Tactics of the chiefs—Troublesome vermin—My birthday—A substantial feast—"Wake" in memory of the three lost guides—Having no food, Nelson and I finish the remainder of the quinine and orange wine—Marked change in our appearance and general behaviour—Evening visits of the Manyuema to our tents—We hold a shauri with the chiefs regarding food supply—Theft of blankets and sleeping things from our tents—Punishment of the Zanzibari thieves—We open Emin Pasha's bales, and exchange the soiled goods for food—My medical fees paid in small food supplies—Sudden generosity of the chiefs—Nelson very feverish—Forest game and Arab crops—My boy Sherif steals some cartridges—Construction of a new village by the chief—Description of the huts—I am laid up with erysipelas—Dreadful condition of Nelson—Loss of our milch goat—Nelson operates on me—An offer of goats in return for rifles declined by us—Preparing food for Christmas—Arrival of Kilonga Longa's advance guard—My tent is besieged by an army of ants—Improvement in my condition—Dish made from pounded ants—Ismailia's philanthropic suggestion—Christmas Day spent in bed—Only eleven of our Zanzibaris alive—The comic side of our position—Khamisi comes to me to be doctored—Difficulty in milking our goat—Growth of our corn and beans—The chiefs still refuse us food—Kilonga Longa's arrival delayed 144

CHAPTER IX.

A STUDY OF BACTERIOLOGY.

The village of Ipoto—Condition of Nelson and myself—We talk about the causation of disease—Our slumbers are disturbed by visions of disease—Generators—Account of some of the disease-producing agents—Leeuwenhoek's work entitled "Arcana Naturæ Detecta"—The discovery of microbes—Müller's investigations—The old term animalculæ—The *Bacillus anthracis* found by Davaine—Recent progress of bacteriology—The doctrine of Biogenesis—The *amœba*—The human *ovum*—Bacteria—Theory of Beauchamp, the French scientist—Shapes and dimensions of microbes—Theory of the bacterial origin of disease—M. Miquel's calculations regarding bacteria—M. Pasteur and microbe cultivation—Active mobility of bacteria—Reproduction of the bacterium—Appearance of bacteria in the fluids and tissues of the human body—Professor Koch and diseases of bacterial origin—Bacteria and the tissues of the animal organism—*Phagocytes* and *leucocytes*—The "attenuation of the virus"—Professor Toussaint and protective inoculation—Forms and colours of microbes—Piebald state of our bodies—Fresh eggs not laid in Africa—Theft by my boy Sherif—A suitable place for a missionary station—Arrival of Kilonga Longa and his caravan—Also some of our missing Zanzibaris—A nocturnal thief—Capture and punishment of Camaroni—Kilonga Longa and other chiefs pay us a state visit

PAGE

—Discussing Mr. Stanley's agreement regarding food-supply—Nelson and I are driven into a state of temporary insanity by the natives—Heavy rains and their effect—Lack of co-operation among the Manyuema chiefs—My people disobey in trouble—Another account of Tippu—A Manyuema medicine-man—The Zanzibaris make Kilonga Longa their fool—*Mosquito*—A slave . . . by his comrades and eaten—Anti-cannibal practised by the Manyuema 160

CHAPTER X.

. . . . . THE ALBERT NYANZA.

. 190

PAGE

his soldiers—Numerous cases of entozoa—The Pasha doubtful as to leaving his province—He presents me with some slippers and cotton cloth—Prevalence of fever at our new camp—Mabruki gored by a buffalo—Rumours regarding Kabba Rega—Daring kites—Jephson to accompany Emin to his province and read the Khedive's orders—I give a 'thought-reading' entertainment to Emin's people—Mimosa bush plantations—The Pasha's lack of authority over his officers and men—Nubiambari, a Zanzibari, missing—Unsuccessful attempt to find him, and subsequent brush with the natives—The steamers *Khedive* and *Nyanza*—The etiology of malarial fever—Further presents from the Pasha—Stanley and I start to bring up the rear column from Yambuya—Desertion of our Mahdi porters—Emin sends us other carriers—We camp at Kavalli's—Dancing in Africa—We assist Mazamboni in a tribal feud—Retreat of the enemy on our approach—The victory celebrated by a war-dance—Food supplies from Mazamboni—Condition of Fetteh, our interpreter—A further instance of African love and devotion—We ford the Ituri River—Arrival at Fort Bodo—Sickness in the Fort—The last day of the Rammadan—Preparations for the forest march to Yambuya 215

CHAPTER XII.

LIFE AT FORT BODO.

I accompany Mr. Stanley to Ipoto—The Mahdi men suffer from "guinea-worms"—My second meeting with Kilonga Longa—Mr. Stanley complains of the bad treatment of our Zanzibaris—We hold an important shauri with the chiefs respecting Mr. Stanley's agreement—Shocking state of the Manyuema slaves—Final arrangements with the Manyuema—Mr. Stanley's entry in my note-book regarding the rear column, and future instructions—Incidents of the return journey to Fort Bodo with the loads from Ipoto—Scarcity of food at Kilimani—Arrival at the Fort—Nelson and myself are laid up with fever—I hold a post-mortem examination on the body of Saadi Baluzi, who had previously been wounded by a poisoned arrow—A great scare in the Fort—Our agricultural pursuits—Police duty in the plantations—Thefts by dwarfs of our bananas—Villages of the dwarfs—Their cunning—Discontent and insurbordination in the camp—Troublesome ants—Destruction and theft in our plantations by elephants—Nelson and Stairs down with fever—Natives in our tobacco plantation—Our Zanzibaris are useless sentries—Food getting scarce—Terrible sickness in the camp—Filthy habits of the Zanzibaris—The circumcision of Kibori—Destruction of our boots and clothes by rats—Our men laid up with ulcers—Return of my old complaints, erysipelas and African fever—List of the sick in camp with their respective diseases—Our Zanzibaris are great schemers and malingerers—I arrange Nelson's and Stairs' medicine chests—Further plundering from our tobacco plot—My boy Muftah a terrible liar—I am laid up with inflammation of the lymphatics—Death of Hanamri—We kill our last sheep—Anxiety for the Pasha and Jephson's arrival—Effects of a violent tornado—Death of Khamis Faragi—Zanzibari custom regarding their sick 240

CHAPTER XIII.

LIFE AT FORT BODO.

PAGE

Anxiety of the men to get back to the plains—Ali Jumba's proposals—We hold a council, and agree that to evacuate the fort would be fatal—The mischief-making clique of Zanzibaris—Recent events do not improve our powers of mutual forbearance—Scarcity of idols in Central Africa—Ninety-nine per cent. of our Zanzibaris have had ulcers—Mohammed Amani Nubian boy lost in the forest whilst foraging—Their probable fate—Porridge made from bananas—List of European provisions for the officers of the Expedition taken from Yambuya—Unsuccessful food expeditions—My boy captures some fish that worms in the same—Sufferings of the Madi men from "jiggers-worms"—their description and origin—Arrangements of rota at night-time—Our visits at the Fort—Garden seeds—The first pumpkin—Our camp with—The various umbrellas—Result of our waste of cartridges—Nelson, Stairs and myself with [illegible]—our beautiful white fowls—the skin of our mess-goat—A Zanzibari tooth-brush—Stairs's [illegible]—Hopes for Stairs's early arrival—the boys capture a snake—Respective weights—Nelson, Stairs and myself compared with our records—[illegible]—Our [illegible] with us—I—My good attachment to me—We [illegible] 265

CHAPTER XIV.

[illegible]

N[illegible]—I—A [illegible]—

[illegible] 27[illegible]

PAGE

toxic substances—Poisoned wounds one of the terrors of warfare—The efficacy of vegetable arrow-poisons questioned by some of the earlier apostles of modern surgery—My experience of arrow-poisons—Native dogs—Jephson's delay unaccountable—Stairs progresses favourably towards recovery—Our process of shaving—Stairs' notes on Mr. Stanley's first arrival at the Lake—Capture of two young crocodiles—Another poor corn crop—We send some 'benevolent' messengers to gather bananas—Distribution of corn among the men—Welcome additions to our larder—I apply pure carbolic acid to the surface of sloughing ulcers—My pigmy woman collects with me the necessary plants for making arrow-poison—Superstition in Africa regarding the construction of a small hut—Approximate ages of the white members, &c., of the Expedition—Process of pounding and preparing our corn—My Monbuttu pigmy mixes a specimen of arrow-poison—I manufacture a gridiron for cooking purposes 293

CHAPTER XVI.

THE ARROW-POISON OF THE PIGMIES.

My first African essay in amateur vivisection—Effect of the arrow-poison on Lieutenant Stairs' dog—Method of burial among the natives—Anniversary of my birthday—Report on the arrow-poison of the pigmies read before the Pharmaceutical Society of Great Britain: Part I. Description of the material; (*a*) The poison; (*b*) Preparation of the poison; (*c*) The antidote. Part II. Identification of the material by E. M. Holmes, F.L.S.—Some of the results of our farming at Fort Bodo tabulated—Mischief by elephants in our banana plantation—Ali Jumba's reply to our cross-examination about the same—Elementary nature of our diet—A native camp discovered in the plantation—Porridge flour made from bananas—We cut down our rice crop—Great quantities of locusts—An elephant's gymnastic feat—Wives of the Wambuttu and Wasongora 304

CHAPTER XVII.

LIFE AT FORT BODO.

Traps for catching ants—Condiment made of mixed and pressed ants—My boy Muftah plays further tricks on me—Native method of catching fish in the river—Narcotic effect exercised on the fish by a plant—A substitute for table salt obtained from the *Pistia Stratiotes*—Muftah runs away from me for the third time—His submissive return—Weight of Nelson, Stairs, and myself—A Zanzibari game resembling draughts—We cut our rice crop—Preparing the rice grain—We divide a quantity of unhusked rice—The continued drought detrimental to our crops—By a simple device Stairs finds the true north and also ascertains the time of day—Stairs and myself down with fever—No excuse for Emin Pasha's non-appearance—Elephants plunder our banana plantation—We manufacture fairly serviceable boots for ourselves, after the fashion of Veldtschoons—Operation of removing a guinea-worm from one of the Mahdi men—

PAGE

CHAPTER XIX.

We [illegible] Mr. [illegible] Mr. [illegible] Mr.

PAGE

my chloroform—Theft of goats by a Zanzibari boy—Some cases of gastro-intestinal catarrh, the result of prolonged exposure to all weathers—My African experience of this latter complaint, also of cholera in the Egyptian Soudan—Burroughs & Welcome's tabloids, a convenient medicine—The tabloid system should be adopted on service abroad and at home by the Army Medical Staff—A death from dysentery—Mortality at our camp since Mr. Stanley's departure 346

CHAPTER XX.

THE STORY OF THE REAR COLUMN.

Lieutenant Stairs tries the Maxim machine gun—Jamming of a Gardiner gun at the battle of Abu Klea—Usefulness of our Winchesters, compared to other rifles—Memoranda of the events which occurred at Yambuya as obtained by me from Mr. Bonny—The Major makes repeated journeys to Stanley Falls—Tippu-Tib's promised supply of carriers—The remnant of the rear column found by Mr. Stanley at Banalya—Unnecessary delay of the rear column in following the steps of the advance column—The march to Banalya—Barttelot shot dead by a Manyuema—Jameson goes down the Congo to Bangala—Bonny left in sole command—My comment on the foregoing memoranda—A feverish locality—The most powerful enemy in Africa—A foraging party disobeys orders—I exchange a pair of shoes for a coat—Filthy condition of our Manyuema—Ants are good scavengers, but otherwise a terrible annoyance—Numerical strength of the Expedition: the rear column almost exterminated—Our total loss of men—Native trick of catching small fish—Progress of our sick — A native dwarf scared by a leopard — Foraging expeditions for goats and fowls—Arrival of Chief Rashid and men to escort us to the Lake—Mr. Stanley receives letters from Jephson and Emin Pasha—Their imprisonment at Dufilé—Rebellion in the Equatorial Province—Dance by Chief Katto and his men—We quit our camp at Kandekoré and arrive at a village on the plains—Reception at Mazamboni's — Description of the village and its surroundings—Kabba Rega's raids on the Wazamboni—Familiarity of the people—The cattle of the plains—We camp at Mpinga's village 359

CHAPTER XXI.

LIFE AT KAVALLI CAMP.

Meeting with Emin Pasha and his officers at Kavalli's—Ferida, the Pasha's daughter—Chief Kavalli's handsome appearance — The Wahuma are the finest people we have seen in Africa—Their dogs of the pariah type—Their liking for bangles and other ornaments—Bonny brings false news of the capture of Katonza's village by Kabba Rega—Enormous baggage of Emin's followers—Physique and appearance of his officers—Mrima commits suicide in his hut from despondency—Our water reservoirs in case of fire—We have our suspicions of treachery among Emin's people in the camp—The roll-call—Successful raid against a hostile chief—I dine with Emin Pasha—An epidemic of diarrhœa—Nelson and others

PAGE

...ever—The Zanzibaris wash themselves in local stili... ...the attitude of our camp—Fever ... camp forest—Useless baggage—A ... malaria mainly attributed to the ... kinds of manioc in African ... —I escort a party of carriers to ... mimosa bushes—The return ... ness of the Pasha regarding his ... more baggage from the ... makes examples of the ring... ...experiences at Constantinople ... mind as to leaving Equa... ...ant water — My ... water in Equatorial ... *urvat* and *stationary* ... with caution—The qua... ...streams and rivers—Modifica... ...large rivers—Impurity of ...ant waters of pools and marshes ... impurities—Hassan Bakari ... in all our conditions— ... in the upper lips of the ...collector—The manufacture ... applications to me for advice ... fixed for starting to the ... hostile tribe—Coffee and ... ...arrivals of General Gordon ... ...ment from Farhei Mullah ... Africa ... 373

CHAPTER XXV

PREPARATIONS FOR THE RETURN JOURNEY TO ZANZIBAR.

Mirifi Salim's account of Emin's people—... ...of the same—We ... people—Treachery sus... ...forest and bad characters—... Mazamboni's—Mr Stanley's proposal to ... Pasha regarding ... State—Emin presents me ... —We ... of the great snow ... which ... Howard's view—The Mon... tribe ... with ... syphilis—Stairs makes the first move homewards with ... mails—Arranging the loads among the men—Park's ... suspended from the belts of the Wahuma and representing tails—Hands and halves of the dwarfs—Their different ways of catching game—An elephant trap—Cannibalism not practised by the dwarfs—Emin Pasha and myself take certain measurements of the various dimensions of four specimens of the pygmies—Mr. Stanley acts as mediator between Mohammed Effendi and his wife—Circumcision practised by the Monbuttu tribe—Syphilis in the Pasha's Province—His men suffer from enlarged spleens—Length of an Arab wedding festival—Nelson and I arrange with the Pasha for a cook—My experience regarding a cook with the Guards' Camel Corps—Our dwarfs since leaving the forest are gradually pining away—Attempt of the Pasha's people to steal

PAGE

some Zanzibari rifles—Mr. Stanley sounds a general muster and addresses the men—His reasons for so doing—I compare his version of the incident with that of the Pasha's—Circumstances render Emin's return to the Province impossible—Total number of Emin's people: also loads—Dance by Wahuma women outside Mr. Stanley's tent—Contest between Omar, the Nubian chief, and five Zanzibaris—We institute some athletic sports 392

CHAPTER XXIII.

TREASON AMONG EMIN'S PEOPLE.

We commence our journey to the coast—Nelson sets fire to the huts—Perfume of my Monbuttu woman—Failure of native carriers to perform their contract—We obtain fresh carriers—Laziness of Emin's people—Shukri Agha, commandant of Mswa Station overtakes us—Hari, my factotum—Lack of hair on the faces of natives—Mr. Stanley ill for the second time with a violent attack of intermittent fever—My anxiety about him—The Pasha assists in the treatment of my patient—My supply of morphine tabloids almost exhausted—Method of making bread by Emin's people—Nelson an excellent cook—Mr. Stanley's condition and diet—I am laid up with bilious remittent fever—Our leader suffers a relapse—Illness of all the white officers of the expedition owing to bad camping-ground—We change our camp—Emin assists me in my professional duties—Stairs and some men forage for food—Mazamboni's stinginess—Recovery of Mr. Stanley—Heavy rains—Weights of Stanley, Nelson, and myself—A native gives us some information regarding Ruwenzori—I manufacture some candles—Annoyance by hyænas—Capture of Rehan and other deserters from the Pasha's camp—We hold a board of inquiry into Rehan's case, and find him guilty—Execution of Rehan—Distribution of rifles and ammunition to the men—Letter from Selim Bey at Tunguru—Discussion of the same—We intercept letters from the Pasha's people to the rebel officers in Equatoria 408

CHAPTER XXIV.

FROM MAZAMBONI'S TO THE ALBERT EDWARD NYANZA.

Our departure from Mazamboni's—Mr. Stanley much improved in health—We bury some surplus Remington ammunition—Ibrahim Effendi and other Egyptians return to Equatoria—Some further desertions—Jephson seriously ill with fever—Dispersion of a party of Kabba Rega's raiders—Their tower-muskets—The extremity of Lake Albert and junction of the Semliki River—Scarcity of natives through continual raids by the Manyuema and Wara-Sura—"The Mountains of the Moon"—Our column on the march is an imposing sight—Mr. Stanley and Lieut. Stairs join my fever patients—Saat Tato captures a canoe, by the aid of which we cross the Semliki River—Hostile attitude of the natives—I go through the rite of blood brotherhood with Chief Bakamuggar—Condition of the sick officers—The Wara-Sura attack us while transporting the expedition across the Semliki—Heavy rains—Death of two of our Manyuema—Enormous banana plantations—Pombé made from

PAGE

bananas—We obtain a beautiful view of the snow-clad peaks of the Ruwenzori range—I study botany with the Pasha—Encounter with a party of Kilonga Longa's Manyuema—Stairs' boy killed and some Zanzibaris wounded—My treatment of four of the latter—The Manyuema recognise their mistake too late—Slow progress of our column—Jephson's condition causes me great anxiety—Lieut. Stairs' ascent of Ruwenzori—I am laid up with African fever—More tricks by my boy Muftah—The Pasha and Mr. Stanley fall out—First sight of the Albert Edward Nyanza—The Salt Lake of Mkiyo—Slabs of saline deposit at the bottom of the Lake—Dimensions of the Salt Lake—Colour of its waters—Our encampment at Katwé—Analysis by Sir Charles Cameron of Dublin, of a specimen of the Salt Lake water—We enter the territory of Unyampaka—Cattle raid by the Wara-Sura on Irangara Island—The first attempt at *al fresco* painting seen by me in Africa—The 'Toro' hills—Kabba Rega's bodyguard, called Wara-Sura, attack us, but are put to flight—We come upon two of their deserted camps—Our Wahuma guides leave us—The shores of the Albert Edward Nyanza are extremely malarious, and the water undrinkable—Many cases of fever in the camp—My pigmy woman is a useful nurse—Our march through the Toro district—Fever cases still on the increase—We enter the country of Ankori 422

CHAPTER XXV.

THE MARCH THROUGH ANKORI AND KARAGWÉ.

Decision as to our future route—Friendly assistance rendered by the natives in carrying loads—We wait King Antari's pleasure at a small village—Loss of some of my clothes—Native customs—Presents of goats and guides from King Antari—Several members of the expedition prostrate with fever—Symptoms of an attack of fever—Some pupils of the late Mr. Mackay of the Church Missionary Society visit us—Their information regarding the latest events in Uganda—The cause of African fever—A few of the Pasha's people drop out of the caravan through sickness—The detestable "yellow-bellies"—Our progress obstructed by a large papyrus quagmire—Carelessness of the Zanzibaris with their rifles—Immunity of our men from sunstroke—We experience sharp alternations of temperature—Large herds of cattle—Stinginess of the natives—Another case of sunstroke—Theft of rifles by the natives—Fever among the white officers—Visit from the young Prince of Ankori—Ophthalmia among our men—Native coffee—Bonny's condition—We transport the caravan across the Alexandra Nile—Murder of a Manyuema woman—Description of the Hot Springs at Mtagata—I take a thermal bath—Death of one of Kibbobora's wives—My opinion of Manyuema men and women—I am obliged to leave my pigmy woman with some friendly natives—Her parting casts a gloom over the camp—The deserted settlement of Kafurro—Visit from one of Speke and Grant's men—Message from the boy king of Karagwé—Jephson pays his respects to the latter—Bargain making with the king—Karagwé an uninteresting country—The coldest day experienced by me in Africa—After a rough march, we arrive at Lake Urigi 449

CHAPTER XXVI.

MR. MACKAY'S MISSION STATION AT USAMBIRO.

PAGE

Unprovoked attack on the natives by some of our worst characters—Fathel Mullah, a Nubian, is handed over to the natives for punishment—The march to Ruanda—Present from the old chief in return for professional advice—Our first glimpse of the Victoria Nyanza—Delay caused by non-appearance of promised guides — Sorcery among the natives—We camp on the shores of Lake Victoria—Charmed lives possessed by the Europeans of the Expedition—We enter the King of Usui's dominion—Remains of a dead zebra—Flight of natives from their huts while passing through Usambiro's country—Quantities of honey—A strange custom of King Mirambo's—Local rumours—Perpetual inter-tribal animosity—Lack of good drinking-water — The French Missionary Station at Bukumbi—Hearty reception by Mr. Mackay at Usambiro—Description of the Mission Station—Mr. Mackay a wonderful mechanic —Welcome news and letters—The Germans and Zanzibar—My experiences of malarial fever from the Ruwenzori range to the Coast—The symptoms and progress of an attack of fever—Miss Berkeley's experiences of African fever among missionaries—At all altitudes we suffered with fever—Administration of quinine for fever—No cases of the hæmorrhagic form of malarial fever—Mr. Mackay kindly replenishes my stock of medicines and provides other necessary articles for our use — English missionaries in Equatorial Africa are much handicapped—An attack of ophthalmia prevents me from finishing my regular diary—Chances of survival of the white man in Africa—The principal varieties of African produce on which we subsisted—Plantains and bananas—Potatoes —Meat and fish—Insects and reptiles—Cereals—Manioc—Cassava —Forest beans and fruits—European provisions—Mboga—Mohoga and other leaves on which we subsisted—Patience and forbearance of the Zanzibaris during their trials of starvation—My Zanzibari chief, "Feruzi Ali"—Our exhausted condition during the starvation period—My medical experiences on board the S.S. *Madura* and *Oriental*—Description of Tippu-Tib and his staff as observed by me on the S.S. *Madura* 468

CHAPTER XXVII.

SUMMARY OF MY PROFESSIONAL AND PERSONAL EXPERIENCES WITH THE RELIEF EXPEDITION.

My experiences from the Congo mouth to Stanley Pool—All of us have suffered some time or another from gastro-intestinal catarrh—Our sick left at Mataddi and Leopoldville—How to render manioc wholesome—Luxuriant forests of the Upper Congo River—Unpleasant times on board the *Henry Reed* while proceeding to Yambuya—Poisoned wooden spikes placed in the ground by the savages—Our march through the dense primeval forest—Camping-grounds and hut construction—Hornets' nests in the forest—Our food-supply on the journey to Lake Albert—Mr. Stanley assists me with valuable advice in the prevention and treatment of fevers—During the forest march we are pestered by parasites, jiggers, and

PAGE

ticks—The removal of the arrow-head from Lieut. Stairs' chest—Amputation of Juma's foot—Great mortality among the sick left at Ugarrowwa's Station—The terrible gangrenous ulcers—Nelson's Starvation Camp—Mr. Stanley presents me with a watch and chain—History of the same—Incident showing the loyalty of our Zanzibaris—Our arrival at Bagamoyo—We are entertained by the local magnates, &c.—Accident to Emin Pasha—He develops broncho-pneumonic symptoms—The Germans interfere with the Pasha's boxes—I am struck down with hæmaturic fever—Dr. Charlesworth's anxiety regarding my condition—My former attack of hæmaturic fever at Fort Bodo—My ill-fated friend Major Barttelot—Mr. J. S. Jameson and Mr. Bonny—Concluding Remarks about my three fellow-officers—Jephson, Nelson, Stairs—Our leader, Mr. Stanley—Welcome home—THE END 492

INDEX 515

LIST OF ILLUSTRATIONS.

NO.		PAGE
1.	Thomas Heazle Parke	*Frontispiece*
2.	Arrows used by the Pigmies	85
3.	Nelson's Starvation Camp	117
4.	Donkey killed, struggle for meat	122
5.	Curios on leopard skin	182
6.	Stairs relieving Nelson and Parke at Ipoto	192
7.	Manyuema setting fire to our hut containing ammunition at Ipoto	136
8.	Zanzibari warning Nelson and Parke of intended attack	145
9.	Different ways of gardening at Fort Bodo	176
10.	Muftah asking forgiveness	275
11.	Arrival of Mr. Stanley at Fort Bodo with rear column	336
13.	Pigmy damsel changing her dress	345
14.	Natives at Kavalli's supposed to have tails	397
15.	Performing blood brotherhood	430
16.	Parke and his faithful Pigmy	301
17.	View of Ruwenzori (sketched by Stairs)	439
18.	Group of relics	500

MAP.

Route Map of the Emin Pasha Relief Expedition across Central Africa *in pocket.*

MY PERSONAL EXPERIENCES

IN

EQUATORIAL AFRICA.

CHAPTER I.

FROM ALEXANDRIA TO CAPE TOWN.

Meeting with Major Barttelot at Alexandria, who furnishes me with an introduction to Mr. Stanley—An unsuccessful call on the explorer—The Alexandrian Hunt Club—Interview with Mr. Stanley at Cairo—Indefinite leave of absence granted me by the Authorities—The contract of engagement for the Emin Pasha Relief Expedition—Preparations for the start—Farewell banquet at the Khedivial Club—My servant Mohammed—At Zagazig I meet Mr. Stanley and Dr. Junker—Tel Basta—Suez—Introduction to my fellow officers—Our Nubian soldiers—Amputation of Mohammed Doud's finger—Embarkation on the S.S. *Oriental* at Aden—The contingent of Somalis—Description of Aden—A case of small-pox—Vaccination of all the members of the Expedition—Temperature in the Indian Ocean—Gymnastics of the *flying fish*—Rules for the preservation of health in the Tropics—Bleached bones at Lamu—Mombasa—Arrival at Zanzibar—Dr. Hussey introduces me to the famous Tippu-Tib—Our Zanzibaris—We embark on the S.S. *Madura*—Free fight between the Soudanese and Zanzibaris—Mr. Stanley distributes the men among the officers—Tippu-Tib to be appointed Governor of "Stanley Falls"—Copy of "General Orders" issued by Mr. Stanley—The men's daily rations—My professional experiences on board the *Madura*—Small-pox in Africa.

JAN. 20, 1887.—On my way to duty in the morning I met a comparatively old friend, Major Barttelot of the 7th Fusiliers. He had just arrived by P. and O. steamer *en route* for Aden. Bright, jolly, and animated he was, radiant with energy and good humour; as, indeed, I always found him except when depressed by sickness or overwork of some kind. When the mutual greetings were concluded, he informed me that he had been selected by Mr. Stanley to accompany him as one of the officers of the Emin Pasha Relief Expedition, and was then actually on his way to execute an important commission

for his chief. This commission was the collection of thirteen Somali boys at Aden, with whom he was to meet Mr. Stanley on his way to Zanzibar; as the latter, from his previous experience of their usefulness, thought it very desirable to add this contingent to the effective roll of the present expedition.

Barttelot seemed quite radiant with the romantic idea of traversing unknown regions in search of the lost European hero, and urged me to accompany the expedition, if I could obtain a release from my present duties. On inquiring who Emin was, I was told he was "some chap who wanted to get out of Africa and couldn't." The idea pleased me, and I immediately agreed that I should try to obtain the appointment of medical officer. I would apply personally to Mr. Stanley when he arrived here. He was expected in a few days, and Barttelot kindly offered me a letter of introduction to him. I was very pleased with the idea of having Barttelot as a companion, if selected by the leader of the Relief Expedition, as he was very jolly company when off duty. He is a hard worker, very energetic, and always on the move; so that he should be a very effective officer, although rather hot-tempered and a rigid disciplinarian.

JAN. 27.—On hearing of Mr. Stanley's arrival by P. and O. steamer, I followed up my intentions by at once calling on him. So I proceeded to Abbat's hotel, where I had been told that he was staying for an hour or so before the Cairo train would leave. I sent in the letter of introduction which Barttelot had given me a week before. When admitted to his presence I tendered an offer of my services. The immediate answer—characteristically prompt and decisive in tone—was, that he could take no person now, as he had already chosen a sufficient number of officers. This left me nothing more to say on the subject, so I gave him my card and took leave. He left for Cairo, and I went back to my routine employment, thinking that nothing further was likely to result from the application. Accordingly I gave as little further thought to the matter as possible, although I was growing tired of the routine of Alexandrian life, with its sleepy, apathetic, one-eyed inhabitants, and its engrossing native industry of "*backsheesh*."

JAN. 28, 29.—I was dining with a party at the Khedivial Club when a telegram was brought to me by the waiter

(9.45 P.M.). On opening I found it was from the leader of the Emin Pasha Relief Expedition. It was worded as follows:

"Surgeon Parke, Medical Staff, Alexandria.

"If allowed accompany Expedition what terms required? Are you free to go with me? Send particulars to

"Shepheard's Hotel.

(Signed) "STANLEY."

My former ambition—suddenly aroused and as suddenly suppressed—now received a new stimulus. I determined to lose no time in preparation, as Mr. Stanley's quickness of resolve and promptitude of action were well known. So I immediately wired my reply:

"Certainly. Coming to Cairo to-night."

Before leaving for Cairo I was obliged to transfer the responsibilities of the Alexandrian Hunt—a meet of the fox hounds having been previously advertised for the following day. The Hunt Club had paid me the compliment of electing me "master" of the fox hounds at Alexandria in the year 1886. It was the first pack ever hunted in Egypt, and had been a great success. Some of my most pleasant recollections were associated with the club and its members. During the previous part of the winter—from the time when the declining temperature permitted us to do so with safety and comfort—we had held our regular weekly meet (Saturday, 3 P.M.). Our Egyptian foxes, although smaller, were sufficiently like those I had been accustomed to hunt in Ireland, to make the home associations an additional element in the enjoyment of this newly-imported exercise. At the appointed time and place about sixty mounted disciples of Nimrod would turn up, including representatives of nearly every civilised nation. A more cosmopolitan gathering could hardly be found. And excellent sport we usually had; the scent lay well in the neighbourhood of Alexandria, as the proximity of the sea insured us a fair distribution of surface moisture. Accordingly, the main difficulty to be anticipated in the securing of a successful run was the choosing of the country, which required a certain amount of diplomacy on account of the distribution of gardens, swamps, &c. This was all changed when we approached Cairo; there we had simply

no scent at all, owing to the absence of surface moisture and the superfluous distribution of sand.

In this difficulty I proposed to a brother officer his taking up my responsibilities for the success of the morrow's meet: his modesty at first made him hesitate; but, on explaining the peculiarities of my position, he very kindly acceded to my request, and thus relieved me of an important charge. Warmly thanking him for the timely relief, I at once rushed off to pack up a few things to bring with me to Cairo, and left Alexandria by the 10.30 P.M. train.

At 6 A.M. I arrived at Shepheard's Hotel, and sought a partial refreshment for the labours of the day by a few hours sleep in the reading-room, as the hotel was full. Then a bath, and hasty toilet, prepared me for an interview with the leader of the Expedition. This took place between 9.30 and 10 A.M. I agreed without hesitation, explaining, of course, to Mr. Stanley my present relationship with the Army Medical Staff. He at once cablegraphed to the War Office, London, requesting permission for me to accompany him in medical charge of the Emin Pasha Relief Expedition. I had no difficulty in obtaining the sanction of Surgeon-General O'Nial, C.B., and of General Sir Frederick Stephenson, G.C.B. The latter is in command of the British forces in Egypt, and he cablegraphed to the War Office authorities asking them to grant me permission to accompany Mr. Stanley. He also asked whether, in case the request was acceded to, my pay would be continued, and my service under Mr. Stanley count towards promotion and retirement. To these queries the following reply was received in due course:—

"*29th.*—Yours to-day. Government is not responsible for Stanley Expedition, and cannot give official sanction to officers joining it. Barttelot has been given leave of absence from his regiment—without pay—with leave to travel in Africa. This is all that can be done to Parke."

Accordingly, I was so far free to move, although the amount of encouragement was not very stimulating. However, as I had put my hand to the plough, I felt no wish to look back.

He also wrote the following letter to Sir Frederick Stephenson:—

"Shepheard's Hotel,
"*29th January*, 1887.

"To General Officer commanding in Egypt—

"Sir,

"I should feel exceedingly obliged if you would be good enough to

grant permission to Surgeon T. H. Parke, of the Medical Staff to accompany the Emin Pasha Relief Expedition as medical officer in charge.

"The medical officer who had already been appointed has, at the last moment, as I learn by cable from London, been compelled to abandon the Expedition. I estimate the duration of the Expedition to be about eighteen months.

"I have the honour to be, Sir,

"Your obedient servant,

(Signed) "H. M. STANLEY.

"Cairo, 31—1—'87."

I also sent a written application to the P. M. O. It was worded as follows:—

"FROM SURGEON T. H. PARKE, M. S., CAIRO, TO PRINCIPAL MEDICAL OFFICER, EGYPT.

"Cairo, 29—1—'87.

"SIR,

"I have the honour to request that permission may be granted me to accompany Mr. Stanley to Central Africa for the relief of Emin Pasha, as medical officer in charge of the force.

"I beg to attach a telegram which I received from Mr. Stanley.

"I have the honour to be, Sir,

"Your obedient servant,

(Signed) "T. H. PARKE,

"Surgeon, M. S."

To this application I received, in due course, the following reply:—

"Chief of Staff,

"Forwarded. I have no objection.

(Signed) "J. O'NIAL,

"Surgeon-General, P. M. O.

"Cairo, 31—1—'87."

JAN. 30.—General Sir Frederick Stephenson sent a message, asking me to visit him at his house at 10.30 A.M. He then showed me the reply (printed above) which he had received to his cablegram. He talked to me very considerately about my position, and recommended me to think further over the matter, and consider the difficulties and dangers which must inevitably beset the Expedition in its progress, before coming to a final decision. I told him that I had already done so, and had definitely made up my mind to go on. I then submitted my final application in writing, asking—at his own suggestion—for indefinite leave of absence. So far now, my difficulties were completely removed, as I was sure of

leave of absence for an indefinite period—from the 5th prox. Accordingly, I at once returned to the hotel to Mr. Stanley, and signed the following:—

"CONTRACT OF ENGAGEMENT FOR EMIN PASHA RELIEF EXPEDITION.

"I, Thomas Heazle Parke, Surgeon Army Medical Staff, agree to accompany the Emin Pasha Relief Expedition, and to place myself under the command of Mr. H. M. Stanley, the leader of the Expedition, and to accept any post or position in that Expedition to which he may appoint me. I further agree to serve him loyally and devotedly, to obey all his orders, and to follow him by whatsoever route he may choose, and to use my utmost endeavours to bring the Expedition to a successful issue. Should I leave the Expedition without his orders, I agree to forfeit passage money, and to become liable to refund all moneys advanced to me for passage to Zanzibar and outfit.

"Mr. H. M. Stanley also agrees to give £40 for outfit, and to pay my passage to Zanzibar, and my return passage to England, provided I continue during the whole period of the Expedition. I undertake not to publish anything connected with the Expedition, or to send any account to the newspapers for six months after the issue of the official publication of the Expedition by the leader or his representative.

"In addition to the outfit Mr. Stanley will supply the following:—tent, bed, Winchester rifle, one revolver, ammunition for the same, canteen, a due share of European provisions taken for the party—besides such provisions as the country can supply.

"T. H. PARKE,
"Surgeon Army Medical Staff,
"Shepheard's Hotel, Cairo,
"*30th January*, 1887.

"*Witness* William Hoffman,
"Approved HENRY M. STANLEY."

The preliminaries having been so far satisfactorily adjusted, I had but to provide as well as I could for personal comforts and professional requirements.

I asked Mr. Stanley whether he had any surgical instruments with him for the use of the Expedition. He replied, "No." He gave me, however, £15 to purchase the necessary stock of instruments, in addition to the £40 for my outfit, so I had now merely to complete my preparations for departure. Accordingly, I left Cairo for Alexandria by the 5.40 P.M. train, arriving at 9.30 P.M., and went straight to the club. My friends were looking out for the result of my interview with Mr. Stanley. On hearing that the preliminary arrangements had been definitely completed, the usual variety of comments were uttered. Some said "lucky fellow"; others—with a pitying shrug of the shoulders—"Poor devil!" However, I had

now sufficient employment in making my preparations for the start, and did not waste much time in discussing the prudence of my procedure.

JAN. 31.—The whole of this day was spent in procuring the items necessary for my outfit. I received the following telegram:—

"To Surgeon Parke, Alexandria. "31 *Jan.* '87.

"Please wire your decision as to accompanying Stanley; send also by post to-day your decision in accordance with telegram from Horse Guards yesterday. Certified copies of documents referred to by you will be sent you by post.

"Military Secretary, Cairo."

Having complied with the contents of this missive, I felt my mind easier regarding my present position. My official fetters were now removed, and I merely required to prepare for the fulfilment of a new class of duties in a different sphere of action.

FEB. 1.—I completed my outfit in the early part of the day, and then paid several farewell visits. Mr. B. Smith, chief of the Eastern Telegraph, gave a sumptuous luncheon for me. Most of the officers of the garrison, and many civilians, were present.

FEB. 2.—In the early part of this day I settled my accounts and made my will, so that my earthly anxieties might be reduced to a minimum before facing the ordeal of the African forests and deserts.

In the evening I was entertained at a farewell banquet given me by many friends—civil and military, English and foreign—at the Khedivial Club. Many speeches were made, all of them kindly in tone and cordial in feeling. I was certainly made to feel that I was parting from warm friends. I already felt a halo of romance forming around my movements, and realised, more fully than I had previously done, the thrilling nature of the journey and incidents in which I must take part during the pilgrimage in quest of the lost hero of Equatoria. The cosmopolitan character of the society of the metropolis of African civilisation was well displayed at this farewell gathering. Such a Babel of tongues, as the wine went round and conversation became more confidential!

My servant, Mohammed, a Berberine, who had agreed to accompany me on the Expedition, with a monthly pay of £3,

now "funked" the dangers which he had heard so fully discussed. The excuse he offered was that his father did not like the idea of his going. The dutiful son! I remember having read among the experiences of some exploring traveller, who had tried to preach industry among the Berberines, that he was met by the conservative objection, "Our fathers never worked, and it would be a disgrace to break the old custom." I can fully realise the earnest truthfulness of the assertion.

FEB. 3.—Left Mohambey station (8 A.M.) for Suez. A large gathering of friends had come to see me off. A former patient of mine presented me with a copy of Shakespeare, as a parting gift and remembrancer on my journey. I cordially appreciated the kind attention; and, now that I am about to penetrate the undiscovered country, from whose bourn so few white travellers have safely returned, I trust that the perusal of the pages of the immortal dramatist will help me to while away many a weary hour. At Zagazig station the Alexandria and Cairo trains meet, and there I met Mr. Stanley and Dr. Junker. I proceeded in company with them to Suez. We were joined at Ismailia by Giglier Pasha, who travelled with us the rest of the way, so that I already began to enjoy the advantages of intellectual friction with three of the most experienced authorities on the internal arrangements of the "Dark Continent." Mr. Stanley then asked me what country I belonged to. replied, Ireland. Then he said, "Well, you are the first Irishman who will have crossed Africa."

The neighbourhood of the large modern Egyptian city of Zagazig is interesting to the tourist and the antiquarian, as well as to the modern historian. Near it is Tel Basta, the ruined remains of the Pi Bast of the ancients, a city sacred to the holy cat, which was the object of so much religious veneration among the Egyptians in the more prosperous days of their history. Innumerable images and modelled forms of the sacred animal have been exhumed from the mounds which occupy the site, from a magnified life-size down to minute miniature; and the remains of a large temple dedicated to "the sacred cat, the lady of the white crown" have also been explored. A sharp engagement occurred here after the battle of Tel-el-Kebir, in 1882, between a small detachment of British cavalry and several trains-full of Egyptian troops, which resulted in the complete dispersion of the latter.

We arrived at Suez at 7 P.M., and put up at the Suez Hotel. We were there obliged to accommodate ourselves to the drawbacks which characterise so many of the remote provincial establishments of this class, as the house was small and not very clean, while the entertainment was decidedly expensive. There was nothing in our immediate surroundings to inspire feelings of a romantic or any other high class, and even the comparative proximity of Ras Sufsáfeh, on the summit of which Moses is believed to have received the "tables of stone," was not sufficient to concentrate our attention, preoccupied as it is by our own ponderous responsibilities.

FEB. 4.—Sailed about one mile to the end of the promontory, and there inspected sixty-two Nubian soldiers, who are to accompany us on the Expedition. They are all volunteers; in splendid physical condition and excellent spirits.

In the evening I dined with Dr. Morrison, of Suez.

FEB. 5.—I procured for myself a few final extras to complete my kit. Giglier Pasha returned home by early train. I played in a cricket-match—for "Suez" against "Eastern Telegraph." The game was vigorously contested, and our side, indeed, managed to get beaten, but the result did not depress our spirits. I telegraphed to Mr. Charles Royle, of Alexandria, for a copy of his 'Egyptian Campaigns,' which I received in due course.

FEB. 6.—Mr. Stanley, Dr. Junker, and myself lunched with Mr. Beyts, the British India S.S. Agent at Suez. At 3 P.M. we embarked on the *Navarino*, B. I. S. S. Co. I was there introduced by Mr. Stanley to Messrs. Nelson, Jephson, Stairs, and Bonny, all of whom are, like myself, officers of the Expedition. Bonny had arrived yesterday.

I got our Nubian volunteers on board and gave receipts for their equipment, kits, ammunition, Emin Pasha's kit, &c., &c.

Our reinforcement of Nubians are certainly immense fellows to look at. I presume that the specimens were selected with some care; the average stature is rather over six feet. Gigantic individuals; but rather sulky-looking [an appearance which does not belie their character, as we afterwards experienced]. Their features are of the Negro type, with thick lips, flattened noses, woolly hair, and ill-developed calves. They are to be used rather as soldiers than in any other way. [It did not take long to discover that some such swag-

gering employment—with little fatiguing physical work to do, and little definite to think about—suited them best, as they are really dull and stupid, and have little enduring energy. It has been said that the typical Negro is essentially a being of the moment, who enjoys his immediate surroundings without care or forethought for future contingencies, and is aroused to a direct sense of his wants only by the pressure of hunger or pain; that he is a born communist, with an open heart and an open hand, and shares whatever he happens to possess at the moment with all his friends and well-wishers, on the supposition that they will do the same upon like occasion. These characteristics were, however, found to be much more developed in our Zanzibaris, who were really of a mixed origin, and cannot at all be offered as perfect types of the African Negro.]

Feb. 7.—A number of missionaries and their wives came on board; they are bound for Burmah and India. One of the blacks (Nubians) had his finger broken at Wady Halfa three weeks previously. His name is Mohammed Doud; he was, of course, reported sick. At this date there was no chance of saving the finger. So I amputated it above the first joint. I considered it well worth while to save even a portion of the first phalanx of a digit of a hand, the functions of which were not purely ornamental. [Most surgical authorities lay it down as a dogma that there is no use in amputating *through* the first phalanx of any of the four smaller digits; however, the adhesions of the tendons and fasciæ in the cicatricial tissue *must* necessarily leave a fair degree of active mobility to a first phalanx which has been divided in its continuity, although in the healthy anatomical state it has no tendon attached to it. Accordingly, I acted on this principle, and the event certainly justified the procedure, for the patient afterwards displayed a considerable power of using his stumpy phalanx, and would certainly have greatly resented a suggestion to remove what he had left.]

I dressed the wound antiseptically, and arranged the hand comfortably in a sling.

Mohammed Doud states that he came in Gordon's steamer from Khartoum to Metemmeh on the 21st of January, 1885. He said he recognised me as one of the persons whom he had seen there on his arrival.

On this day Dr. Junker left us.

In the evening we steamed away from Suez.

FEB. 8.—The day was calm and warm—a day for reflection. I had not much in the way of active duty—Mohammed Doud's finger was my principal charge, so I had ample opportunities for thinking quietly over my present position. Before signing my agreement with Mr. Stanley, I asked him what he meant by "terms" in his telegram of the 28th of January. His brief reply was: "There are none." Accordingly my pecuniary prospects connected with this expedition are simply *nil:* I receive no remuneration from any source whatever. The Government has refused to pay me; I am volunteering my services gratuitously; and so must only exist in the hope that, like all virtuous deeds performed in this world, they will eventually—if not immediately—prove their own reward.

FEB. 9.—Attended to Mohammed Doud, who is doing well; spent a great part of the day in mental evaluation of my future companions. At intervals I amused myself by reading 'King Solomon's Mines.'

FEB. 10.—To-day the temperature of both air and water is 80° F.—latitude a little south of Suakim. We had an "event" at noon-tide, in the shape of a slight *shower of rain*—a rare incident in the Red Sea.

FEB. 11.—To-day we passed the island of Perim in the straits of Babu'l Mandib—our gate of exit from the Red Sea.

The French had intended making a coaling station at this island, but—observe the powers of superior diplomacy!—the French admiral received a timely invitation to lunch with the British governor at Aden; and the proffered hospitality occupied his thoughts so fully that he did not mind hoisting the "tricolour" in the early part of the day. He returned from a pleasant repast to find the Union Jack flying on Altamont, the highest point of the island, where it had been placed during the hour of entertainment by a swift and trusty messenger of his confiding host.

FEB. 12.—At 2.30 A.M. we anchored off Aden. After breakfast, the Nubian soldiers were transferred to the B. I. S. S. *Oriental.* Mr. Stanley also went on board, with Jephson, Stairs, Nelson, Bonny, and myself. Major Barttelot and Mr. Jameson (with thirteen Somalis) received us on board. The baggage was taken over, and we steamed away at 4 P.M. The

Navarino passengers gave us a hearty farewell cheer as we moved off.

Our new contingent of Somalis presents an interesting and, indeed, striking contrast to their Nubian fellow-travellers. The average height of the Somali is about 5ft. 7in., and, as he is of light build, and carries no superfluous flesh whatever, he looks a puny pigmy when observed alongside the gigantic Nubian. The Somali's type of feature is Asiatic; and the quick, intelligent expression of his face and eyes, which often varies, according to the inspiration of the moment, into one of genuine intellectual cleverness or pronounced cunning, also furnishes an interesting study when observed beside the dull, stolid, and sulky features of his Nubian neighbour. These Somalis are also very agile in their movements—compared with the Negroes; and can do some curious things in the way of gymnastics. They are very expert divers, and will perform wonders in the way of bringing up things from under water. Their skin is of a coppery tint; the natural expression of the face is strikingly bright—with quick, dark, and very mobile eyes—and, altogether, their appearance is prepossessing.

They are, I believe, all Mohammedans in creed, but not very strict in the practice of their faith. They have a sultan of their own, of course, and there are three castes among his subjects: the iron-workers, the common people, the jugglers and magic doctors. The "good" Mohammedan Somali shaves his head, and wears a turban; the less strict allows his hair to grow pretty long, and parts it down the middle. The principal garment is of sheep-skin—which the men make into a girdle which is worn around the loins, and the women a cloak which reaches below the knee. When travelling, a piece of red goat-skin is carried, to kneel on during prayer.

At Aden all are clothed in long cloth shirts and calico shawls.

We received a "Reuter" bearing the intelligence that 400 Italians had been massacred at Massowah, and that the British Government had decided to evacuate Egypt. Encouraging items these to British wanderers about to penetrate the heart of Africa!

Aden itself consists of a mass of hills of rugged and precipitous character, forming a peninsula, connected by a slender

and low isthmus to the Arabian portion of the Asiatic continent. It includes a town and military cantonment, with elaborate fortifications. Its military and geological peculiarities have given it the name of the "Indian Gibraltar." It has many events of great interest written in its past history: one of the most taking to the British traveller being the fact that it was the first accession of territory recorded in the reign of Her Majesty Queen Victoria. It is celebrated for the possession of colossal water-tanks; the construction of which dates back to the second Persian invasion of Yemen, which took place in A.D. 600. The study of these structures brings the mind of the historic antiquarian back to a period when the civilisation of Persia and Arabia formed such an astounding contrast to the ignorant and unwashed condition of the greater part of Europe, that some of the most enlightened authorities on the habits and customs of this period will have us believe that the bloody conquests of the Arabs and Turks in the southern and south-eastern portions of our own continent were by no means an unmixed evil. The importance of the seaport has, of course, risen enormously since the opening of the Suez Canal; it now serves as a sort of "half-way house" to India. The structure of the hills has been found very interesting to scientific geologists, who look upon them as a volcanic relic, representing a huge crater of a remote period in the world's history. Its proximity to Africa makes Aden an easy resort for Somali emigrants in search of employment, a fact which accounts for the levy of our Somali contingent within its precincts.

FEB. 13.—A case of small-pox on board! The patient is one of the Nubian volunteers, and its appearance at once concentrated my attention on the means of preventing the spread of the disease. I have a good supply of lymph by me which was purchased by Mr. Stanley from Edward Prichard, Druggist, of 10, Vigo Street, Regent Street, London. So I recommended immediate vaccination of all the members of the Expedition, to which they consented—excepting one European, who is an anti-vaccinationist. Accordingly, I proceeded at once to vaccinate Mr. Stanley (in four places); also the remaining Europeans, and the black boy, Baruti, were subjected to the same operation. Eighteen of the Nubians were then vaccinated (three places each). The rest of the Nubian party had but

recently been vaccinated, so I did not think it necessary to do the like for them. Mr. Bonny has also been re-vaccinated but a short time ago.

The temperature of my small-pox patient was 103·4° F. I had him immediately removed to one of the boats swung above the bulwarks, where he is perfectly isolated. This man's name is Said Mahommed Abdul: he has never been vaccinated, so that the occurrence of his case is no argument against vaccination or re-vaccination.

FEB. 14.—I vaccinated the two interpreters and two Nubian officers.

My small-pox patient was now placed in one of the boats above the awning, so as to isolate him the more completely, and thereby prevent, as far as possible, the spread of infection.

During my spare hours I took some lessons from the first officer in reading the sextant. The mutual relationships of the several angles of incidence and reflection proved rather puzzling at first; but, as my tutor displayed patience and sympathy, I soon commenced to make a little progress in the domain of practical optics.

We passed Cape Guardafui at 11.30 A.M., and entered the broad expanse of the Indian Ocean. The temperature is going up, and the stuffiness of the atmosphere below is becoming more marked every hour.

I slept on deck, as the cabin was unbearably hot.

FEB. 15.—A very heavy shower of rain fell at 11 A.M. The atmosphere appears to be growing moister as we are widening our distance from the arid surroundings of the Red Sea.

In the afternoon Nelson, Stairs, and myself practised shooting with the revolver. Each of us succeeded in breaking a bottle.

There are four or five German passengers on board, who appear to spend their whole time in reading, taking notes, and refreshing themselves with beer. They are, I believe, about to form a trading company at Zanzibar.

Heavy rain fell during the night.

I slept on deck, for not only did I find the stuffy heat of the cabin objectionable, but the whole place was alive with cockroaches and small red ants.

FEB. 16.—The atmosphere is now very damp and relaxing. This was more especially felt at night. One of the most

prominent phenomena at this stage of our voyage is the gymnastics of the *flying-fish.* Specimens are continually flying on board. They appear to fly almost invariably *against the wind,* and they habitually penetrate the waves in their flight. The usual length of their aerial course appears to be about 20 to 30 feet, and they generally rise about two feet above the water. They are extremely numerous, and fly sometimes singly, sometimes in shoals of considerable number.

I wrote out the following "Rules" which were published in Mr. Stanley's "Order Book" for the guidance of his staff, &c.

RULES FOR THE PRESERVATION OF HEALTH IN THE TROPICS.

Water.—All drinking-water—no matter how sparkling and pure—should be invariably boiled to insure its freedom from dangerous constituents. Cold weak tea, without sugar or milk, is best for the march. Water should always be drawn from the centre of the stream.

Sun.—No precautions can be too great for protecting the head from the direct rays of the sun. The use of a proper head-dress and umbrella, also a spinal pad for the morning and evening sun, is judicious.

Chills, draughts, sitting in damp clothes, especially when heated after violent exercise and copious perspiration—also cooling of the body suddenly in any way—are certain to be followed by fever.

Clothing.—The bodily temperature should be kept as equable as possible. Loosely fitting woollen clothes are preferable. Light *Kommerbund* should be worn day and night. On halting after a march, put on a wrapper so as to cool gradually; get under cover and change if possible.

Sleep as far as possible off the ground, and always under mosquito curtains at night.

Diet should be plain: meat—rejecting the fat; fish, vegetables well boiled; fruit, rice, and cereals.

Early morning	Café-au-lait.
Mid-day meal	Déjeuner with fruit.
Evening	Dinner without fruit.

Alcohol habitually, especially during the day, is most dangerous; medicinally, on occasions, it is very useful.

Tub in the early morning, or at the end of march, before cooling: never while digestion is going on, and always tepid, if possible.

Camp.—Select highland plateau near water supply: don't disturb the soil, avoid ravines, never to leeward of a swamp, unless separated by a belt of trees or a river. Site of latrine should be selected immediately on halting. Avoid camping under trees.

(Signed) T. H. PARKE, Surgeon Army Medical Staff,
In medical charge E. P. R. Expedition.

FEB. 17.—This was the *fourth* morning of my numerous vaccination cases. Among the whites in only two cases, however, has it taken well; those were Lieutenant Stairs and William Hoffman, Mr. Stanley's servant. In all the others the local indications are but slight, although not one of them had

been vaccinated before for the past ten years. Of the blacks, one has taken well, some partially, the remainder failed—the only local result being a slight inflammatory blush around each point of insertion. This, however, is, I have no doubt, due to the fact that the great majority of them have either been vaccinated or have had small-pox at a recent date. Something of the result is also due, perhaps, to climatic influences.

Captain Shepherd (of the S. S. *Oriental*) corrected my aneroid to-day. The case of small-pox on board is of the confluent variety.

FEB. 18.—At 9 A.M. we crossed the Equator.

We saw one shark to-day, close to the vessel.

I instructed the European members of the Expedition in bandaging, stopping hæmorrhages, setting fractures, and resuscitation of the apparently drowned. Three of the men developed feverish symptoms, so I had them at once placed in "quarantine" by putting them in one of the boats over the awning—corresponding in position to the boat on the opposite side of the steamer where the small-pox case was placed.

As the period of incubation is almost invariably twelve days in the cases due to infection, there can be no doubt that these cases—if they are to prove genuine small-pox—must have resulted from exposure prior to the date of embarkation. Some of them had come to our party from Khartoum. Of the three:—

Hamed Mohammed	had small-pox	8 years ago.
Fathel Moulah Houssain	„	„	?
Said Fadel Allah	„	„	in boyhood.

[These cases were, of course, anxiously watched; but only a very few vesicles appeared on each, and these chiefly in the neighbourhood of the seat of vaccination. They never proceeded to the pustular stage, so that I made up my mind that they were results of the operation, and due to lymphatic irritation. No case after the original one developed pronounced symptoms of small-pox.]

FEB. 19.—We arrived at Lamu about 4 P.M. On going ashore, one of the first objects of interest to which my attention was directed was a huge collection of bleached bones, including the skeletons of several hundred men who had been killed in war with one of the sultans of Zanzibar. They decorate the site of the battle-field, situated close to an old tower—resembling

in form one of our own martello towers—and near the entrance of the harbour. The mails were just leaving there, so I wrote two letters.

FEB. 20.—I went ashore with Capt. Shepherd, the medical officer of the ship, and Mr. Jameson, for some shooting. Jameson shot a pair of red-legged partridges. I managed to get one. I also succeeded in wounding a gazelle, but had no time to track it.

At 9 A.M. we steamed away from Lamu, taking the Rev. Mr. Wakefield (missionary) as passenger to Zanzibar.

FEB. 21.—We arrived at Mombasa at 9 A.M. This is a very pretty place, and garnished with old fortifications. I counted twenty-six obsolete pieces of cannon placed around. The missionaries have a large station here, and appear to occupy the best houses of the "West End." They have a steamer of their own, and a convenient harbour is formed by an inlet of the sea, which just faces the town. Palm trees are very numerous in this neighbourhood.

We moved away at 10.30 A.M., and anchored for the night near some islands. We caught some small fish to-day.

The three cases which had been retained in temporary quarantine were released to-day, as no serious symptoms had developed, and their temperature has for the past few days been at normal.

FEB. 22.—We arrived at Zanzibar at noon. Mr. Stanley went on shore immediately, and proceeded to the residence of the British (Acting) Consul-General, Mr. Holmwood. He deputed me to inspect the S. S. *Madura*, and tell off the places for the men who were to be brought on the Expedition. There was ample room, the *Madura* being registered to carry 750 between decks. All the men, with their equipments, &c., were changed from the *Oriental* to the *Madura*, under charge of Major Barttelot and myself. The small-pox case I left to be taken care of, and sent to hospital in reliable hands. Two of the suspected cases (which I had formerly isolated) I still keep under personal observation, although I know that small-pox is not really threatened. Stairs, Nelson, Jephson, and Jameson very busy with the ammunition in the powder magazine.

FEB. 23.—*Ash Wednesday.*—Stairs, Nelson, Jephson, and Jameson left for the magazine at 6 A.M., to complete the

arrangements about the ammunition. I visited Mr. Mackenzie (agent B. I. S. S. Co.), and found that, according to promise, he had had the small-pox case carefully removed from on board the *Oriental* during the night, and comfortably looked after. He promised to have him (as Mr. Stanley directed) sent back to Egypt when convalescence was established. I called on Dr. Hussey, the consulate-surgeon who had examined all our Zanzibaris and had certified them as medically "fit." On enquiry I learned from him that the vaccine tubes which he got from England nearly always failed. He received six tubes from London but a short time before, and they had all proved useless. I dined with him in the evening. The champagne he received from the British islands is certainly of a more effective character than the vaccine lymph. But so much always depends on the host in these matters!—almost as much as on the surgeon in case of an operation.

Afterwards we visited the sultan's gardens, where we found a band playing. We also went to the tennis courts. Quite a number of Europeans were there in full enjoyment of the popular game—including three ladies.

Dr. Hussey introduced me to the famous Tippu-Tib, the ivory hunter and ex-slave-dealer. He is certainly a very remarkable man, both physically and morally. His presence is very impressive, standing as he does nearly six feet, with bright, intelligent black eyes, and displaying manners of imperial dignity and courtesy. His career has been a most romantic one: first a slave, then an adventurer from Zanzibar to trade in ivory and slaves, he has now succeeded in establishing himself as an uncrowned king on the banks of the Mid-Congo. His personality is altogether an extremely interesting one.

In the afternoon I bought a few useful medicines, strolled about the town, and stared at its various sights. The denizens of the place appear to be of very mingled racial origin; chiefly, I believe, on account of its convenient position as a resort for the slave-dealers. They are not at all typically Negro; nor, of course, are they Asiatic. The place swarms with enormous numbers of loafers who are anxious to find employment as carriers, &c.

The Bulak Pasha, or non-commissioned officer, named Mohammed Doud, whose finger I had amputated, was dis-

charged from his hospital privileges to-day, and sent back to duty.

FEB. 24.—At 10 A.M. our Zanzibari contingent commenced to embark. They were conveyed on board in batches of fifty each. Although not so large men, they seem more active proportionally—smarter—than the Nubians, and I am disposed to expect better service from them for the purposes of our Expedition, owing to my experience of the Nubians on the Nile. Arrangements were made for giving excellent and copious rations to all the members of our force.

At 6 P.M. we dined with the British Acting Consul-General.

When all the Zanzibaris were on board the *Madura*, she steamed out to sea for two miles, and dropped anchor; an important safeguard against desertion.

Tippu-Tib also embarked—with ninety-six of his followers: thirty-five of these are members of his harem.

The average age of the members of the Zanzibari contingent, who are now employed to convey our goods across the Dark Continent, is about twenty-seven. They are rather well-built men, strong and muscular; average height, about 5 ft. 9 in. The native Zanzibaris have some Arab blood in their veins; but a large proportion of our men were captured as slaves when young. They accordingly include representatives of nearly every tribe in Equatorial Africa. They seem to be jolly, good-humoured creatures; and create a great deal of amusement by story-telling and facetious observations on every passing incident.

The Emin Pasha Relief Expedition was now on board and is as follows:—

Mr. H. M. Stanley, his servant, and his 7 British officers	9
Zanzibaris—men	600
„ boys	23
Soudanese or Nubians	62
Somalis	13
Tippu-Tib and his followers	97
	804

[Four officers and two men joined the Expedition afterwards—making a total strength of 810, inclusive of two interpreters.]

Early in the morning we steamed away. At 9 A.M. the Soudanese and the Zanzibaris had a free fight. It originated

in the crowding down of the Nubians by the overwhelming numbers of the other party. A decidedly animated scene followed. They pushed, pulled, and clawed one another; and, as the excitement proceeded, they laid hold of whatever crude weapons happened to be within reach to use upon their opponents. Fragments of firewood and stray pieces of plank were utilised for this purpose, and a large number of wounds of various aspects—incised and contused—were provided for my special care. One Nubian had his left middle finger broken; and a Zanzibari was disabled, by having both bones of his fore-arm badly smashed. The other injuries were less considerable.

The men were now distributed by Mr. Stanley to his officers as follows:—

Barttelot received charge of the 62 Nubians and two interpreters.

Stairs, Jameson, Jephson, Nelson, Parke, 111 each: this enumeration including six chiefs and six under-chiefs. Each company was thus commanded by an English officer.

This was a very busy day for me, professionally. I vaccinated forty-three men. Tippu-Tib and twelve of his wives were sea-sick, and I prescribed some "Eno" for each. Mr. Stanley has induced this potentate to accompany us, and has contracted with him for the conveyance of loads, etc. He is also to be appointed Governor of "Stanley Falls" by King Leopold of Belgium, on Mr. Stanley's recommendation, at a salary of £30 per month.

We have now commenced to let our beards grow (except Mr. Stanley, who always shaves).

FEB. 26.—Mr. Stanley has now issued "General Orders," of which the following is a copy:

S.S. *Madura*. 26 *February*, 1887.

1. Officers commanding companies in the Emin Pasha Relief Expedition are as follows:—

Edmund Barttelot, Major	. . .	Co. A, Soudanese.	
William Grant Stairs, Captain	. .	„ B, Zanzibaris.	
Robert Henry Nelson,	„ . . .	„ C,	„
Mounteney Jephson,	„ . . .	„ D,	„
J. S. Jameson,	„ . . .	„ E,	„
*Rose Troup	„ . . .	„ F,	„
Thomas Heazle Parke,	„ . . .	„ G,	„ 30 Somalis 13

* This company was never under Mr. Troup, but was transferred to Surgeon Parke in conjunction with G Company.

Mr. William Bonny takes charge, until further orders, of transport, and riding animals, as well as goats.

2. Each officer is personally responsible for the good behaviour of his company, and for the good condition of arms and accoutrements after distribution.

3. Officers will inspect frequently, when on shore, cartridge pouches of their men to see that the cartridges are not lost, or sold to natives or Arabs *en route*. For an intentional loss of one cartridge a fine of one dollar will be imposed; two cartridges, two dollars, and a corporal punishment of five strokes with a rod.

4. For trivial offences a slight corporal punishment only can be inflicted, and this as seldom as possible. Officers will exercise a proper discretion in this matter, and endeavour to avoid irritating their men by being too exacting, or unnecessarily fussy: it has been usual with me to be greatly forbearing, allowing three pardons for one punishment.

5. Officers should endeavour to remember that the men's labour is severe; their burdens are heavy, the climate hot, the marches fatiguing, and the rations poor and scanty. Under such conditions, human nature becomes soon irritable, therefore, punishments should be judicious, to prevent straining the patience of the men; nevertheless, discipline must be taught, and, when necessary, enforced for the general well-being of the Expedition.

6. Serious offences affecting the Expedition generally must be reported to me.

7. While on ship-board one officer is hereby detailed to perform the duties of "officer of the day."

Officer commanding Co. A, begins the duty;
" " B, succeeds next day;

and so on. The officer of the day is the executive officer for that day. He has to see the rations distributed, quarters of the men cleaned—on deck and below. No smoking or fire permitted between decks. No fighting or loud wrangling to be permitted anywhere. He sees that the officers commanding companies detail their guards. Soudanese guards on either side of the deck, to prevent Zanzibaris crowding on the Soudanese quarters. A detail from each Zanzibari company to guard around second-class cabin at top of companion, to guard cooking fires, to look after the water, to see that the transport and riding and provision animals are fed and watered; in brief, to see that every duty, great and small, that ought to be done for the general health and well-being of the Expedition is performed. For the petty details of such duties officers will apply to Commanding Officer A Company.

8. The officer of the day should wear or carry a sword, and be distinguished by a sash. He should report to me direct anything beyond his power to remedy, or for any instructions affecting the Expedition.

9. Officers will consult their interests by paying deference to the lawful orders of the "officer of the day."

HENRY M. STANLEY,
Commanding Emin Pasha Relief Expedition.

To-day I again administered some "Eno" to Tippu-Tib and the twelve members of his harem, who still continued to suffer from sea-sickness. Companies were told off. I have now charge of Troup's company, in addition to my own, till we get to the Congo. Company G is constituted for special service.

I vaccinated sixty men, and looked to fifteen sick. Some

of these have ulcers: one especially, a pronounced specimen of the "irritable ulcer," which is situated on the inner malleolus (right ankle).

The weather is not very warm now, but was very damp and close to-day.

My servants' names are Muftah and Kondo-Bin-Jumar.* The latter is my gun-bearer.

FEB. 27.—SUNDAY.—Thirty cases on the sick list. One of these is a case of pneumonia. I vaccinated fourteen Zanzibaris.

This being Sabbath Day, I was deputed to fulfil the general duties of clergyman, including the reading of prayers, &c. This first experience of the important office made me feel rather nervous.

FEB. 28.—I vaccinated nine of our men. Felt very unwell; the close atmosphere is very trying. No free circulation of air to promote evaporation from one's skin, and moderate the oppressive temperature; and so much moisture floating that the process would be a slow one, even with the freest renewal of atmospheric gases. The hygienic importance of *latent heat* was never more fully impressed on my mind than it has been during the course of this weary day.

MAR. 1.—Took my turn as "orderly officer"; was present at the distribution of rations at 5 A.M. At 9 A.M., saw all 'tween decks cleared and cleaned. Went round with the Captain at 10 A.M.

[Disinfectant powder was shaken all over 'tween decks, and this process was repeated afterwards on each succeeding day.]

At 7 P.M. I saw all our men in bed, and all lights put out. A night visit had to be paid later on, to see that all was correct and everything quiet.

I did not feel quite so seedy as yesterday; the additional interest attaching to my extra duties enlivened me a little. The atmosphere is still, however, very oppressive. The odours of our various disinfectants fill the place, and they are not all of the variety which promotes sensuous gratification, but we can only console ourselves with the fact that without them, respiration would be very much less enjoyable than it is even now.

* Translated, Sheep the son of Friday.

MAR. 2.—The daily rations of our men on board were portioned out as follows :—

Meat	½ lb. (three times weekly).
Rice	1 lb. 8 ounces.
Sugar	1 ounce.
Biscuit	8 ounces.
Ghee	2 „
Potatoes	4 „
Fish	4 „
Dahl	2 „
Tea	1 ounce.
Curry stuffs (made from onions, chillies, turmeric, garlic and black pepper.)	
Salt	1 ounce.

The above represents a very substantial bill of fare, and there is no reason to be discontented with it. We can only hope that the supply will last till we find the unknown stranger of whom we are in search.

I vaccinated three men who came up voluntarily for the operation.

The fact that the infection of our small-pox case did not spread I attribute entirely to the complete isolation, and the strict hygienic measures which have been carried out. Liberal distribution of disinfectant powder was practised on the *Oriental* as well as on the *Madura*. Although the infecting power of the small-pox virus is very great, still it can be thoroughly kept in check by a rigidly complete use of antiseptic precautions; and the prompt adoption of vaccination has given, of course, an additional safeguard to our men and ourselves.

MAR. 3.—I allowed the two "suspected" cases, which, up to the present, had been strictly isolated, to come down from the boat where they had been under observation, as there is no room for any anticipation of danger now.

Vaccinated four men who came up voluntarily.

We had very rough weather; steamer rolling a good deal—enough to make a great many cases of sea-sickness, and uneasiness sufficient to keep the majority in a state of discomfort.

MAR. 4.—At 7 P.M. we passed Durban.

A large proportion of the Nubians, Zanzibaris, and Somalis have had small-pox. There is no disputing the evidence of this fact which is furnished by their appearance.

MAR. 5.—Another very rough day. The waves dashed quite across the deck, drenching everything in their course, including our poor donkeys and goats, which seemed to like the process even less than ourselves.

Sick list includes about twenty of the men; one of these is a case of dysentery. The case is not, however, a very severe one. I do hope that we will not have too much of this disease when we come to march across the "Dark Continent," as an epidemic of it would be a fearful plague, and it is so likely to appear in malarious districts when men are exposed to much privation.

I had only sixty tubes of lymph to start with; therefore I at first vaccinated only those who never have had small-pox, or were never vaccinated before. Most of the others I vaccinated from those who had taken successfully. I purpose continuing this practice, as I cannot obtain another supply of lymph now, and it will be, of course, as effective—probably more reliable. A large proportion of our Zanzibaris have been already vaccinated, comparatively recently, and a good many of them have had small-pox. I must take every precaution against the disease, for Africans generally appear to be very prone to it, and I know that some of the highest authorities on epidemiology affirm dogmatically that Central Africa is the true home of small-pox, just as Bengal notoriously is of cholera.

MAR. 6, SUNDAY.—At noon we passed Port Elizabeth (Algoa Bay).

The past night was very stormy. All ports had to be closed, and the donkeys slung. Some rain fell subsequently.

Prayers were read by Jephson. He performed his clerical duties with commendable religious gravity.

MAR. 7.—Attended to about fifteen sick. After going my rounds I mentioned to Mr. Stanley that there were three or four of this number whom I did not expect to be able to march after landing, and that I thought it would be well to leave them behind.

Wrote letters, one of which was to J. R. of the 60th Rifles, to say that his brother's tombstone had arrived at Zanzibar.

CHAPTER II.

FROM CAPE TOWN TO LEOPOLDVILLE, *VIA* BANANA POINT.

Accident to one of Tippu-Tib's Zanzibaris—Our reception at Cape Town—Letter from Surgeon-General Faught—My sick patients on board ship—Conclusion of the work of vaccination: remarks thereon—Packing together my baggage and medicines for the march—Deaths from pneumonia and heat-apoplexy—We arrive at the mouth of the Congo—Zanzibari burial service—Banana Point Cemetery—The Congo River at Ponta da Lenha—Boma—Camp at Mataddi—A recovery from brain concussion—Carelessness of the Zanzibaris as regards their invalids—Some cases of sunstroke—The start for Leopoldville—Crossing the Mposo River—Palaballa Mission Station—The march to Congo la Lemba—Fording the Bembezi River—Illness of Mr. Stanley—Kind entertainment at Banza Manteka—I lose my waterproof coat in crossing the Kwilu River—Heavy rains—Delays caused through the straggling of the Zanzibari carriers—Mutinous attitude of our Nubians at Lukungu Station—Some rifles missing—Fever among the Somalis—We bridge the Npoko River—A provoking misadventure—Major Barttelot and the Soudanese—The African elephant—Arrival at Lutete Mission Station—Ivory caravans—A native market—By the aid of the steel-boat *Advance* we cross the Inkissi River—An unpleasant drenching, causing subsequent illness—We reach Leopoldville—Engagement of the Upper Congo River steamers—Visits and presents from local chiefs—Major Barttelot and I, with our companies, embark on the stern-wheeler *Stanley*—*Chikwanga* or native bread—Palavers with native chiefs in order to obtain guides—Incidents of the march to Mswata—We employ our time by cutting wood for the steamers.

MAR. 8.—We arrived at Simon's Bay at 9 A.M. The agent of the B.I.S.S. Co. came on board and brought with him some telegrams and letters—one from the Royal Naval Club, making Mr. Stanley and his officers all honorary members. At 3 P.M. we went on shore. I saw the papers at the club, having by this time developed considerable curiosity to know what is going on in the civilised portions of the earth.

MAR. 9.—One of Tippu-Tib's men, a fine young Zanzibari of about twenty-two years of age, met with a bad accident last night. He fell—somewhere about 3 A.M.—from the top of one of the deck-houses; and, when picked up, was quite un-

conscious. When I saw him he was suffering from symptoms of concussion of the brain; his face was a good deal bruised and swollen, and he was bleeding copiously from the lips and gums. There was no evidence of fracture or dislocation. I at once applied cold to his head, and gave him six grains of calomel, with five grains of James's powder. I also procured him some tea and milk, which I made him swallow, and placed him comfortably in bed. I was afraid of intracranial hæmorrhage, as the symptoms of concussion were not typically marked, but were somewhat mixed up with those of compression. The breathing was rather heavy, although not exactly stertorous, and the pulse more full than in a true case of pure concussion. We arrived at Cape Town at 7 P.M.

MAR. 10.—At 5.30 A.M. we raised anchor and came alongside a jetty for the purpose of coaling.

Visited my patient, who still remained unconscious.

A number of people came on board here to see Mr. Stanley, and have a look at Tippu-Tib, and the Expedition generally.

I also received the following letter from the P. M. O. (Deputy Surgeon-General Faught) :—

"Dear Dr. Parke,

"Can I be of any service to you in any way? I really think that the best advice I can give you is to use quinine freely as a prophylactic; certainly, with the Europeans of the Expedition. I quite heartily congratulate you on your good fortune in being appointed to the Expedition; and it is also a cause of congratulation to our department that one of us has been selected.

"Yours very truly,

"J. G. FAUGHT.

"P. M. O.'s Office,
"Cape Town,
"*March* 10th, 1887."

[Deputy-Surgeon-General Faught had known Mr. Stanley some years before and was much interested in the Expedition.]

I procured a considerable quantity of medicines, which I brought on board with me. Several ladies and gentlemen were introduced to Mr. Stanley and Tippu-Tib.

I purchased, while on shore, some brass cartridges for my gun, a capping machine, and some lead to make bullets with. Mr. Walker, an English engineer, has also been taken on board, as an officer of the Expedition, to super-

intend the management of our steamers during the river voyage. This makes the number of Europeans up to *ten* at present.

We left Cape Town at 5.30 P.M.—weather very rough. When leaving the jetty, the crowd cheered for Stanley; and some soldiers—mostly members of the Medical Staff Corps—who were present recognized me, and gave me a farewell hurrah.

Most of the members of the staff have brought dogs with them. Mr. Stanley himself sports two fox-terriers—one of them he calls *Randy*.

I had another accident to-day—a crushed finger, which I was obliged to amputate at the first joint, as there was no chance of saving it. I have now several bad cases on board—including dysentery, pneumonia, and accidents of various kinds. Some of the vaccinated arms are very sore still. I experience great difficulty in getting the sick men properly looked after: the attendants always walk away when my back is turned. Soup is always specially prepared in the galley for my patients, and I am obliged to sit by, and see it taken; otherwise I could never be sure of their getting it. All our coloured friends seem to be very negligent of their disabled comrades; it is an unpleasant characteristic, as they seem to be kind and companionable during the hours of prosperity.

MAR. 12. — Weighed my baggage, and, to my great surprise and regret, found that it was over weight, so that some must be left behind. One of my cases (dysentery) was rather bad. A good number of cuts had to be stitched up during the day. There are great quantities of patent medicines, one of which, "Hippacea," is confidently recommended for cracked heels, spavin, splint, sore back, &c., &c.

Tippu-Tib's man walked into the saloon in a delirious condition, completely deserted and neglected by his attendants. I gave him a sedative—xxx grs. of sodii bromid., followed by ¾ gr. of morphia. He, poor fellow, is evidently suffering from acute encephalitis, following the reactionary stage of cerebral concussion, and will require the greatest care, which I will have great difficulty in procuring for him.

I have now continued the work of vaccination till the operation has been performed—with the exception of a very

few who objected to it—on all the members of the Expedition, black and white, excepting those who presented well-marked scars of former small-pox, or of a former successful vaccination. Even those who had had small-pox in infancy, or early youth, were vaccinated. I also re-vaccinated those in whose cases a long interval had elapsed since they had been successfully subjected to the same operation. The total number vaccinated was about 550. This included 7 of the 9 Europeans; 2 Syrians (employed as interpreters); 10 Somalis (of the 13); 40 Nubians out of a total of 62); and nearly 500 Zanzibaris (of the total number of 623). Of these 550 cases, about half were vaccinated from the lymph which had been purchased by Mr. Stanley for the use of the Expedition; the remaining half from the vesicles which had formed on the arms of their comrades. In the latter case, I, of course, utilised the best-developed vesicles for the supply. Our 62 Nubians had all been vaccinated before, as they had belonged to the Egyptian army, where the regulations required vaccination on enlistment. In choosing those to be re-vaccinated, I had all the men fallen in, and rejected those who presented good vaccination marks, or deep small-pox pits, and especially those who assured me that they had been recently vaccinated. They were all very willing to submit to the operation, and had commenced to come to me voluntarily for the purpose. I applied the same rule to the smaller number of Somalis. A very considerable proportion of the Zanzibaris have had small-pox; more than a fourth of the total number vaccinated present distinct scars left by the disease. I vaccinated only those in whose cases a long interval had elapsed since they had suffered from it.

The net result of the total number of operations was that about one-half were fairly successful. Of the other half some developed small abortive vesicles at once; but a large proportion showed no signs whatever after the first trial. These, however, I re-vaccinated, some of them several times over, till I succeeded in obtaining some small result—enough to show that a little, at least, of the lymph had been absorbed.

I am disposed to attribute the large proportion of complete failures, and the repetition of the operations which were found necessary in so great a number of my cases, to the effects of the tropical heat and parching winds, which tend to dry up the lymph rapidly, before it has time to be absorbed. This has

been already noticed by many high authorities on meteorology and hygiene, and I learned from Dr. Hussey, of Zanzibar, that an enormous proportion of failures occur among the vaccinations performed in Zanzibar and the adjacent parts of the African coast. By persevering, I did, however, after repeated trials, in some instances succeed in getting slight definite results, indicating at least a partial amount of protection in these cases. A small vesicle, followed by the formation of a minute crust, appeared in these troublesome specimens.

In order to ascertain the value of the operation in some of the more doubtful cases, I took many opportunities of applying "Bryce's test" for a successful vaccination. This simply is, re-vaccinate on the fifth day; if the primary operation has been successful, the second vesicle (necessarily smaller) will reach its full stage of development as soon as the first—they will both undergo the characteristic changes on the eighth day. This rule I have often seen to hold good.

[Of the preservative effects of these vaccinations a crucial test was supplied at a later period in the history of the Expedition.]

MAR. 13, SUNDAY.—Jameson read the service for the day. As I was so often called up at night, I asked Mr. Stanley to add an order to the "General Orders" already issued, directing that all sick should be paraded at 11 A.M. while on board ship, and at 5.30 A.M. when on shore; also, at my request, my recommendations of 16th Feb. were copied into the "General Orders."

One of our female donkeys died in parturition.

MAR. 14. — One of our men died. He had made no attempt to rally from the exhaustion produced by dysentery, although all hæmorrhage had ceased for three days.

The day was very calm, temperature 73° F. There was no land in sight, but there were a great many birds flying about.

In the afternoon, the temperature 'tween decks was 97° F.; where the men sleep, on deck, it was 84° F.

MAR. 15.—Spent the day packing up medicines, and endeavouring to squeeze the contents of six boxes into four loads. There is no linseed-meal in our Expedition stores, so I helped myself to some of the ship's store.

MAR. 16.—A death from pneumonia. This patient had also

been one of Nelson's Company; his name was Marzouk Bin Ali. Several other members of this company are suffering from bronchial affections. I believe that this is principally due to the fact that they are quartered so near the engines; it is, of course, very hot there, and when they go up on deck they get chilled. This is easy to understand, as the difference of temperature is fully 20°; below, the temperature is usually 94° F., while at the top of the gangway, in the open, it is but 74° F. It is with the greatest difficulty that they can be kept out of their quarters, although a sentry is placed on guard at the top of the companion.

On this day I found the temperature at 100° F. below, while the thermometer where the men sleep on deck registered but 90°.

MAR. 17.—Spent a good part of the day in packing up my kit. Our maximum weight of baggage is 180 lbs., and the endeavour to squeeze my necessaries into this limit I found a rather fatiguing task. Could not with all my trouble manage to do it, so I had to send back many things, and get 35 lbs. of ammunition for my hammerless breechloader carried by another.

At 10 A.M. the temperature between decks was 100° F.; at the same time it was 80° F. on the upper deck. So the work of arranging and packing made one feel pretty warm. I have succeeded in getting nearly all the medicines into four boxes (of 60 lbs. each)—my maximum allowance of weight. The supply of dressings is very limited, so is that of my tonic medicines.

Mr. Stanley selected the cooks, and gave each officer a saddle for his donkey. I had brought my own saddle from Alexandria.

MAR. 18.—Sarboko Makatubu, a Zanzibari, died to-day of heat-apoplexy. The attack followed a two-hours' exposure to the sun—in the morning, while washing his clothes. He had felt quite well in the early part of the day, but had been a little "seedy" the day before; probably the effect of the exposure was the more pronounced and the more rapid on that account. The temperature ran up very high, 109° F. The skin was extremely dry and exhibited the characteristic *calor mordax*, so strikingly developed in pronounced cases of insolation; the breathing was heavy, and became slightly

stertorous, the pupils were extremely contracted, and the conjunctiva deeply injected; complete coma rapidly supervened, and death followed in a few hours. He was buried at Banana Point—by the mouth of the Congo River, where we arrived at 10 A.M. The Zanzibaris make a long, narrow, deep grave—excavated on one side, close to the bottom. The corpse is then lowered and placed—the body on its right side—in this recess. Grass and sticks, or boughs of trees, are then placed over the body, and the grave is filled up with clay. The body is always wrapped in a clean white shroud.

They chant their burial service hurriedly, and appear anxious to have the ceremony completed as rapidly as possible. These people seem to look upon death with a philosophic eye; they know of no appeal from the unalterable decrees of Almighty Fate.

I counted but three English tombstones in the cemetery: W. H. Sexton, M.D., Blessington Street, Dublin; Dean, an engineer with Mr. Stanley's former expedition; Sooks, a boy of nineteen. The cemetery is the first object of interest which the enterprising adventurer sees when he lands at the Congo's mouth—a cheery introduction to one of the most unhealthy parts of Africa. We found that the largest of the steamers which had been appointed to convey us up the river to Mataddi—as far as the cataract—was stranded hard and fast on a sand-bank.

MAR. 19.—Nelson and Jameson embarked with 250 men—on S.S. *Serpa Pinto*, and *K. A. Nieman*—at 9 A.M. The *Serpa Pinto* belongs to one of the Dutch trading companies. I went on board the *Albuquerque* (Captain Robert Howe) with 124 men, Uledi, my chief, Walker (an English engineer), my two gun-bearers, and a heavy cargo of Expedition goods. This steamer belongs to an English trading company.

We started at 10.15 A.M., and arrived at Ponta da Lenha at 11.30 A.M. This is an extensive factory station—English, French, and Dutch. It seems a place likely to have a future before it, and will probably grow rapidly, as the trade of Africa develops and the ingress of civilising influences is facilitated.

At this point the three streams of the Congo—which are separated by islands as we ascend the river—unite into a single (narrower) one, which thence passes on to its termina-

tion in the Atlantic. At the mouth, between Banana Point and Sharks' Point, the breadth of the river is but six miles; above Ponta da Lenha, before the union of the three constituent streams, it measures twenty miles from bank to bank.

In this interval both banks of the river are beautifully green and richly wooded. The Congo is remarkable as being the second largest river in the world, with 8000 miles of navigable water; and its velocity is so great that fresh water has been found 240 miles out to sea.

One of Jephson's men died. He had suffered from bronchitis; and was also the subject of an old-standing dislocation of the elbow. We are getting a good many chest cases now; the difference of temperature above and below deck is very marked; and the sudden fall of the thermometer, following the vertical sunset of sub-tropical climes, produces many chills, especially among persons of the reckless habits of the Zanzibaris.

We reached Boma at 6.30 P.M. This place is situated 63 miles from the sea. The head-quarters of the Congo Free State officials are situated here. We are naturally interested in the place, forming as it does the great centre of one of the most important of the life-works of our leader. The position is now interesting, both geographically and historically.

Mr. Stanley followed in the S.S. *Heron*.

MAR. 20.—We left Boma at 6 A.M. The stream just above is about 1200 yards wide, and is excessively rapid. The banks are very precipitous, so much so as to approach the perpendicular; and, accordingly, the view is very limited.

I distributed rations at 6.30 A.M., and reached Ango-ango at 11.30 A.M.

One of the men of Jephson's Company, Mwana Bin Ali, died to-day of acute bronchitis. He had a very weak heart, a complication which determined the fatal result; so weak, indeed, that he would never have been able to travel with us, even if he had not been attacked with any acute disease.

MAR. 21.—I marched 117 men—with their kits—from Ango-ango to Mataddi, a distance of 7 miles. Nelson brought about the same number. We left Jameson and Walker to look after the baggage, and come up by steamer in the evening.

On arriving at Mataddi, we pitched our tents and formed a camp. We then unloaded the steamers, which arrived soon

after us. A Portuguese gun-boat arrived at 4 P.M., with Stairs and Barttelot on board.

Tippu-Tib's man, who had suffered from concussion of the brain—with subsequent delirium and other complications—was now discharged to duty, being quite well. It was a very auspicious termination to an extremely dangerous case. He had suffered from mingled symptoms of concussion and compression of the brain, followed by acute encephalitis, which were made all the more formidable by the neglect of his comrades, on whom he had to depend for nursing and attendance; and also by the want of the requisite repose, which was made impossible by the movements of travelling, and the very limited accommodation on board steamer.

MAR. 22.—I was told off by Mr. Stanley to transfer the rice into small bags, which were not to exceed 70 lbs. weight each; also to send off the loads by carriers to Leopoldville. The others were also hard at work immediately on arrival, as we have now to fit up everything into loads of about 60 lbs., for the march to Leopoldville (Stanley Pool), which is 235 miles off.

There are a good many sick now, chiefly from chest affections. The Zanzibaris are not at all good to their invalids; I found four of the worst cases left lying down without blankets, which should have been simply handed to them by their comrades, as one blanket was given to each man before leaving the *Madura*.

MAR. 23.—Mr. Stanley added eight men to my company. Maulim Bakari of F. Company, which is also under my charge, died of sunstroke. This case, and the fatal one of the 18th inst., are the first cases of sunstroke I have now seen for a considerable interval. Strangely enough, I have seen a much greater number of men knocked down with sunstroke at Aldershot during one day in 1881, than I have had an opportunity of seeing during all my African experience.

Remington rifles were distributed to the men; fifty Winchesters were also distributed to the officers and picked men. We also received a revolver and water-bottle each. I did not take one, as I preferred an old campaigning bulldog of my own, which I had used on the Bayuda desert march in '85.

MAR. 24.—Mr. Stanley added ten more men to my company, which now numbers sixty-one.

Hari Balyousi and Abdallah—both of Nelson's Company—

died, one of acute bronchitis, complicated by failure of cardiac action; the other of pneumonia. Both cases had contracted their fatal illnesses on board the steamer.

The temperature under shade of verandah at Mataddi was 98° F. The men were paraded at 6 A.M., and continued to work all day.

I put 185 large bags of rice into the Congo Free State store-houses.

A riding donkey was given to each of us.

MAR. 25.—One of Stair's men, Khoma, died of peritonitis—the result of an injury to the abdomen.

The caravan marched from Mataddi to Mposo, two hours. The ground over which we passed was undulating, and not difficult for marching; but many of the men were drunk, and all were loaded. Before starting, each of us had to throw away something—article of kit, or some provisions—so as to get down the individual weight to the regulation amount of 60 lbs. per load. Everything has to be carried on men's heads. Accordingly many hundreds of pounds' worth of valuables of various kinds were rejected, or left in store. I loaded my donkey as well as I could, still I was obliged to throw away a number of things—among others, some of "Jameson's oldest," which he had kindly given me.

Fourteen sick men were left behind with Lieutenant Baert, C.F.S. officer at Mataddi, with directions that they are to be sent on after us, as soon as they are able to march. We left for their use some rice, syrup of the hypophosphites, and sulphate of magnesium. I pointed out the cases, and impressed on him that what they most required was *feeding*.

We crossed the Mposo river in canoes; the operation was tedious and troublesome, but no very untoward accident occurred; so that, beyond the delay caused by the obstruction of another stream, there is nothing special to record.

In the evening, after halting for the night, we were ordered to give the men some musketry instruction and ball practice.

MAR. 26.—We marched from the Mposo river to Palaballa, leaving at 5 A.M., and arriving at noon.

My donkey fell down when I tried to mount, as he has been greatly reduced in condition by his sea-voyage.

We enjoyed a hospitable luncheon at the Mission, with Mr. and Mrs. Clarke, and Mr. and Mrs. Ingham. Mr. Ingham has

been working in the service of the Expedition, collecting porters on the Lower Congo.

MAR. 27.—We again stayed for the night at the Mission Station.

One man had died on the way.

MAR. 28.—We left Palaballa at 5.30 A.M., and marched twelve miles to Banza Manteka. The ground was fairly level, beautifully green, and picturesquely studded over with clumps of trees. It is well watered, but every specimen of water which we could procure for drinking was very muddy—looked painfully like *café-au-lait*.

The sun was extremely hot, and we all felt it severely. Several of the men sickened from sheer exhaustion—being in extremely bad training for over-exertion of this kind, after their idleness and stall-feeding on board ship. Many of them have also become knocked-up with sore feet by the marching. Four of the worst cases were left behind at Palaballa—to be sent on by the missionary when they have recovered.

The men of my company conveyed their loads to camp—all correct.

MAR. 29.—Started at daybreak, and arrived at 1 P.M. at Congo la Lemba, where we camped for the night. I was on rear-guard. The march was only eight miles; our column sometimes stretched over two miles.

On the way, one of the men had the calf of his leg deeply laid open by an accidental hatchet-stroke. I staunched the bleeding by securing the open vessels, and closed the wound with eleven sutures. He then continued the march, as I had bound up the limb so as to secure a fair degree of comfort, and we had no means of transport. He felt fairly well after the operation: there was no pain to speak of about the wound; and the latter, although a deep and long one, did not quite reach the posterior tibial vessels, so that the hæmorrhage was from the smaller branches, and not sufficiently copious to cause much faintness after the oozing had been stopped.

MAR. 30.—We were roused at daybreak; rain had been falling heavily, so that we did not start so early as usual. After some rice breakfast, I left camp with my company at 9 A.M. At the end of four miles we halted upon a swollen river, the Bembezi. The current was extremely rapid, and the effects of

the recent rain were shown in the numbers of branches of trees, &c., which were being carried down by the stream. Under Mr. Stanley's directions, a double rope was stretched across the river from bank to bank, and the loads were passed across from hand to hand, the bearers holding on with one hand by the fixed rope—and standing shoulder deep in the water. The donkeys were made to swim across, being guided by Zanzibaris, who swam in front of them. Two of the more weakly of the donkeys made a very poor attempt at swimming, and were nearly drowned.

By 5 P.M. the entire column had crossed—the transit having lasted five hours—commencing at noon. We then continued our march till 9 P.M. During the last hour or two we found great difficulty in groping our way through the forest, as it was pitch dark. I, fortunately, had a candle, given me by Tippu-Tib, which I utilised; so I was able to get along.

I am obliged to sleep in my wet clothes, so that I do not feel very well pleased with my experiences of the Expedition. We are, fortunately, pretty well sheltered; otherwise we should be chilled to the bone.

Gave Mr. Stanley 10 grs. of pulv. Doveri, as he felt ill after the march. No medicine-boxes have yet arrived in camp, the bulk of the column not having come up.

MAR. 31.—By daybreak three-fourths of the column had emerged from the forest; so we then started and marched to the Mangola river, which we found spanned by a primitive wire-suspension bridge. Immediately after crossing, about 10 A.M., Mr. Stanley was attacked by very violent cramps, complicated by some dysenteric symptoms. I gave him v. grs. of pil. plumbi c. opio, and had him carried to the next camp, as he was almost pulseless and quite blanched. He is still very faint and weak, and requires very careful nursing. The attack was exactly like the commencement of cholera.

We arrived at our next camp about 11 A.M. Mr. Stanley was so completely prostrate that he required a good deal of attention. I gave him some rice-milk, with beef-tea and arrowroot, at intervals. I also administered v. grs. of pulv. Doveri.

APRIL 1.—Our leader was much better to-day—so much so, that, after being carried in a hammock for about three-fourths

of the day's march, he was able to ride his donkey for the remaining fourth of the way. Heavy rain had fallen in the morning. We halted for the night at the American Mission Station at Banza Manteka, where we were hospitably received and entertained by Mr. and Mrs. Richards, and Dr. Small. Our movements, up to the present, would seem to be under very favourable auspices; I only hope that they may continue as such. Kindly faces meet us at every station, and the warm wishes of the civilised portion of humanity appear to be altogether with us.

The water-supply at this station is of very bad quality, and is situated a long way off.

APRIL 2.—Very heavy rain fell this morning, which prevented us from starting till 8 A.M. As we moved on, the day brightened, and was quite fine by 10 A.M. Mr. Stanley sent Jephson with the sections of our steel-boat—the *Advance*—and the boat's crew of Zanzibaris, accompanied by six Somalis, down to the Congo, with directions to row up and meet us at Stanley Pool. Five sick men were left with Dr. Small. One of these is a hopeless case, and cannot live long. The other four have each a good chance of recovery, but were quite unable to proceed with the Expedition. Two bags of rice were left to provision them.

I was in charge of the rear-guard. We marched over a rather picturesque country till about 3 P.M., when we halted for the night. Throughout the greater part of our march the grass on either side of the path reached above our heads.

APRIL 3.—Very heavy rain again this morning; which prevented us from starting so early as we had intended. We left our camping-ground about 6.30 A.M., and continued our march till 5 P.M. We did a good day's work, the Expedition passing by the Lunionzo river.

APRIL 4.—We left camp early, and reached the Kwilu river about 2 P.M. The stream is about 50 yards wide, with a very strong current. We at once commenced to cross the stream in a "dug-out" canoe, which was found lying on the bank without an owner. It carried eleven men with their loads, and three Somalis, who directed it, and was pulled backwards and forwards across the river by means of a rope made fast on either bank. I met with a piece of ill luck here; my gun-bearer dropped my waterproof coat into the stream, and

it was instantly swept away, beyond hope of recovery, by the rapid current.

Some Zanzibaris swam across: all the Soudanese and all the donkeys did likewise. The Somalis are very quick and expert in all their movements connected with ferrying, swimming, diving, &c. They present, in this respect, a great contrast to the vast majority of the members of the other nationalities who go to make up our Expedition.

April 5.—The transit of the Kwilu still occupied us till about 2 P.M. Heavy rain then came down in torrents, and effectually prevented us from continuing our march. However, we had now an opportunity of seeing how fortunate it was that we had crossed before this rain; for the stream became very quickly swollen, and very much more rapid, carrying down huge boughs of trees in great numbers, so that it would have been difficult, and, indeed, extremely dangerous, to attempt crossing.

Tippu-Tib and his numerous attendants were also conveyed across without misadventure.

April 6.—We marched at daybreak, and halted early. One of our Zanzibari chiefs (named Khamis Bin Athman) was shot dead by a native as he tried to enter his house—to steal food, &c. However, the homicide was shot dead in his turn; some say by one of the Zanzibaris; others say by Tippu-Tib's A.D.C., and brother-in-law, Salim. One of Tippu-Tib's men had his left hand penetrated by a slug, which shattered the bones into small pieces. This I wished to treat by immediate resection, or amputation; but the patient objected, and would not submit to the operation.

Mr. Stanley distributed fifty rounds of ammunition to each European, five rounds to each Somali, and two rounds to each Zanzibari.

I took over the mess arrangements from Jameson.

April 7.—To-day Mr. Stanley decided that it was necessary to enforce a stricter discipline, as the stragglers were continually wasting our time in trying to keep them up, and the history of the previous day had demonstrated that they were commencing to make the worst possible use of their opportunities. The number of desertions since we left Mataddi now amounted to about thirty, and the straggling and pilfering were becoming intolerable. Accordingly, Mr. Stanley decided to ride in the rear of the caravan, which made a very happy

difference in our day's progress—after a few examples had been made by whipping in the incorrigible loiterers. Whatever may be said or thought at home by members of philanthropic African societies, who are so anxious about the extension of the rights of humanity, there is no getting an expedition of Zanzibari carriers across this country without the use of a fair amount of physical persuasion. In its absence they become utterly reckless, and soon forget all discipline.

I was now handed over Jephson's company for a few days, in addition to my previous charge: an arrangement which gave me plenty of occupation—independently of my professional work, and my functions as mess-caterer.

APRIL 8.—We left our camping-ground (at Vombo) pretty early, and marched about 12 miles to Lukungu, where we arrived at 5 P.M. The ground over which we passed to-day was partly flat and partly undulating.

Stairs's donkey had its leg broken in descending a steep bank, and had to be shot.

We dined at the Congo Free State Station, Lukungu.

The Nubians had now finished their rations, which should have lasted them longer if they had been provident. Accordingly they thought proper to assume a very mutinous attitude. This roused Mr. Stanley, who had them drawn up in their places at once, and told them there and then that he would shoot the first man among them who dared to disobey orders. The interpreter, a Syrian, Assad Farran, said that he had joined the Expedition as interpreter, and should not be subjected to the same rules as the others; but Mr. Stanley's reply was that his lot was cast with the Soudanese, and he must share their fate, whatever it was. Fortunately, the kind liberality of our hosts, Messrs. Francqui and Dessauer, had led them to provide for our benefit a large supply of African food, sufficient to satisfy our whole Expedition for four days. In presence of this benevolence, mutinous thoughts and language were more easily suppressed.

APRIL 9.—We remained all day at Lukungu. Had breakfast with the C.F.S. officers. This was followed by a general parade. My three companies numbered as follows:—D, 96; F, 66; G, 55. Several rifles were found to be missing.

Rations for seven days, sufficient to bring us to Stanley Pool, were now served out. Barttelot was then sent on before

us with the Soudanese and some Zanzibaris, as he understood a little Arabic.

There was a general invitation to the officers to dine at the C.F.S. station; but I was unable to go on account of the number of sick on my hands. Mr. Stanley told me that I had lost ten rifles, but this was in excess of the actual number.

APRIL 10.—EASTER SUNDAY. We left Lukungu at 8 A.M. Very soon after starting we had to ford a river.

I was again "pulled up" about the loss of rifles. Mr. Stanley told me I had lost nineteen rifles, so that by going on in the same ratio I will have lost all the rifles of the Expedition long before we reach our destination. This is not a very inspiriting reflection. We are all working hard at our grammars and Kiswahili exercises, so as to be able to speak to the Zanzibaris in their own language.

The sun is very hot. Our arms are reddened, almost blistered, by the exposure, as we wear no coats now. Other cases of sickness occurred to-day: Nelson, among others, whom I was obliged to dose for a bad attack of diarrhœa. Two men, who were quite unable to proceed, it was decided to leave behind. Six of the seven Somalis who are with us were attacked with fever to-day; also five of Jephson's detachment of the Somalis, who were several miles off on the river. Certainly a remarkable coincidence. The temperature in each case was about 102° F. These Somalis seem to be less able to contend with marsh-miasm than the other members of the Expedition. I have no doubt that the explanation is that they had always lived on a dry and sandy soil around Aden, and the change into their present surroundings has been greater and more abrupt for them than for any of us. They will suffer much before they become acclimatised. It is very necessary to wear a Comerbund in the evening so as to prevent abdominal chills.

We camped for the night at Kibamwanga.

APRIL 11.—We marched to the Mpoko River, which we reached at noon. There was a wicker suspension-bridge across the river, but it was too weak to be relied on; so Mr. Stanley had two of the longest trees found growing near the bank, cut down, and allowed to fall across the river side by side. They were then lashed together with ropes, and a good bridge was in this way formed, over which the loads were safely passed.

The donkeys, as usual, swam the current; we were pretty well tired by the time all had crossed, so we proceeded to camp for the night close to the opposite bank.

A provoking, although, indeed, somewhat ludicrous misadventure befel me here. Not expecting any sudden rainfall, we settled down for the night very close to the river's bank, and I suspended my hammock between two trees. Presently, the rain came down in torrents; we were soaked through and through; and, in a few hours, the stream had swollen and overflowed its banks to such an extent that the trees to which my hammock had been secured now appeared to be in the middle of the river, and some of my clothes had been washed away. A new lesson in the practical aspects of African exploration!

In the evening, our leader asked me to his tent to have a cigar, and we conversed on the various topics suggested by the progress of the Expedition. We discussed the question which had been raised of Major Barttelot's having threatened to shoot Uledi, but decided that it was not meant for earnest; also rumours about the European provisions having been tampered with, which were false.

APRIL 12.—We were roused at 5.15 A.M., and the men soon began to march, but, as I was the officer on rear-guard, I did not leave the camping-ground till 8 A.M. We arrived at Lutete at 5 P.M., having had nothing to eat or drink on the way. This slow progress was due to the bad marching of the Soudanese, who had had a day's start of us, under charge of Major Barttelot. We caught them up on the way, and they would not push on, till I threatened to take their rifles, which had some effect in quickening their steps.

Jephson met us, and reported the death of one of his Somalis —the others were weak and weary. Mr. Stanley gave directions to have soup served out to each of them at once. Rice was distributed to every man, sufficient for the distance to Stanley Pool (about eight or nine days' march ahead).

Barttelot found it impossible to keep ahead of us with his Soudanese; Mr. Stanley asked me would I take charge of them, but I preferred not trying the experiment, and prayed to be excused.

Elephants and antelopes abound in this part of the country. The African elephant moves in his native haunts with a degree of nimbleness and agility which is quite astounding

when seen for the first time by Europeans, whose previous experience of the animal has been derived from the commercial specimens of the menagerie, or those confined in the Zoological Gardens. I was not at all prepared for it.

April 13.—We reached the Lutete Missionary Station, where we were able to make ourselves comfortable and dry our clothes. The station is situated in an attractive neighbourhood; beautiful tropical plants abound in the surrounding valleys.

There was a hot dispute between the Soudanese and Zanzibaris on the subject of a cooking-pot. It assumed such proportions that Mr. Stanley found it necessary to interfere, which he did with so much vigour that both scrimmaging parties were soon reduced to peaceful silence.

We received a good deal of kindness from the Baptist missionaries at this station. They are five in number. When leaving the station, I left two sick men behind who were entirely unable to proceed. They are suffering from intermittent fever.

April 14.—I slept very badly last night; having but one blanket, I suffered greatly from the cold. My aneroid gave a reading of 2,000 feet above sea-level.

We started early from our camping-ground, and made a pretty rapid march of 12 miles—over a flat, well-wooded, and well-watered district. Mr. Stanley remarked to me that it would be advisable to procure some medicines, if possible, from kindly friends on our way; as the store we possessed was very likely to run short. I had got a 1 lb. tin of vaseline from Dr. Small, of the American Mission. I lost one box of ammunition—about 500 rounds (Remington). We halted for the night at a place called Nyangin.

April 15.—We made a satisfactory march of 10 miles, to the Inkissi river. The surrounding scenery was very beautiful, and there was a gradual ascent amounting to 350 feet. We met two ivory caravans on the way, who were speeding towards the ocean, well laden with their valuable spoil. One tusk weighed 180 lbs.

The natives on meeting us always say "Good morning," or "Bote," which means the same thing. On our march we came on a native market, where goats, bananas, cloth, &c., were exposed for sale; but, when the sellers saw us approaching, they hastily packed up their commodities and ran off, as

they said they were afraid that our Zanzibaris would appropriate their goods. We saw one example of their ready method of dealing with theft and murder—a native who had been spiked on a post some time before, and his body remains there as a standing warning to evil-doers. At the end of the day Nelson and myself were both down in fever; our respective temperatures being 104° and 103·4°.

April 16.—Reveillé at 5 A.M. Jephson, who had gone on ahead to launch the boat, was now ready to portage us across the Inkissi. Our boat divides into twelve sections; and, plus the equipment, made loads for forty-one men.

The loads were first conveyed across the stream, then the men; the total process of transit occupied the whole day. The river was the broadest we have yet encountered; so that, on this account, and, as the current was very rapid, our former stratagem of the rope could not be depended upon. Mr. Stanley took great personal trouble in the crossing; remaining in the boat during the whole time, and attending to every detail in the transit of both men and goods. The donkeys were also conveyed in the boat.

When everything was brought to the opposite side of the river we formed our camp for the night, quite close to the bank. Rice was then distributed—2 lbs. to each man.

April 17, Sunday.—We left our camp on the bank of the Inkissi River. One of the peculiar things which attracted observation during the progress of the day's march was a snaring apparatus used by natives for catching birds.

Barttelot took a wrong path with the Soudanese to-day, and has not yet returned.

April 18.—We left our camp at 5.35 A.M., and marched about 10 miles through a country thickly wooded, and intersected by several small rivers. The trees are stunted in appearance. The last stream we crossed was considerably larger than the others; and—worse luck—my donkey, which had safely conveyed me over the others, slipped and fell with me in crossing this stream. So I was thoroughly drenched, and many of my cartridges were spoilt.

We camped for the night at Nkilama, where I removed my soaked apparel, and tried to make myself comfortable. The noise of the first cataract on the Congo—half-a-mile from

our camp — is tremendous, and has a most awe-inspiring effect.

I feel very seedy this evening—the accumulating results of wetting and fever. I had some surgical work with two of the Zanzibaris, who had been wounded by slugs, one in the calf of the right leg, the other in the left shoulder. I did not, however, succeed in removing the slugs.

April 19.—I felt very seedy still; took no notes.

April 20.—Ditto.

April 21.—Reveillé at daybreak. We made a long and fatiguing march, which brought us to Leopoldville at noon. This is our embarking-place and ends our journey of 235 miles from Mataddi, through one of the most unhealthy parts of the Congo State. I am delighted that the continuous walking is over for a season, but new difficulties now face us in the outlook for our provisions, as a famine prevails in Leopoldville and the surrounding district, and very little food can be procured for our men.

The village consists of a few rather primitive huts; the inhabitants include about a dozen white men in all: missionaries, traders, and officers of the Congo Free State. There are three steamers, but only one of these—the *Stanley* —is available. This vessel is able to accommodate 150 passengers. The American Mission steamer, *Peace,* was refused us, but afterwards given on certain conditions. In a similar way, the English Mission steamer, *Henry Reed,* was at first refused, but afterwards yielded to us. The latter could not be given, because her captain, the Rev. ——, is going to marry a wife and therefore cannot come. The Congo Free State officials then chartered her on behalf of Mr. Stanley. By these means we are now supplied with the entire available flotilla on the Upper Congo.

The men made themselves comfortable grass-huts: by keeping an appropriate distance, and studying a convenient formation, they housed themselves very snugly indeed. [Many native chiefs visited Mr. Stanley during our stay. Ngalyema is the greatest swell among these.]

I have been extremely seedy for the past few days, and could not ride my donkey, as he was loaded. Apart from this consideration I could not attempt to ride, as I was suffering from bilious remittent fever, with severe abdominal pain, &c., &c.

My tongue has been all the time coated with a thick, dry, black fur, the worst I ever saw.

April 22.—I took a variety of medicines, changed my quarters from the hot tent to a straw-and-mud hut at the station nearer to the river (by kind permission of Lieut. Liebrichts, commandant), but experienced very little relief indeed. I feel extremely prostrate, and can take no nourishment, except a little milk and arrowroot—everything more solid I attempted to swallow was at once rejected. A general parade was held to-day. I handed over my company to Bonny, as he was kind enough to take charge of it for me during my illness.

A large number of our men are hardly able to walk from jiggers in their feet.

April 23.—Mr. Stanley continued his arrangements about the steamers. I was compelled to remain in bed all day—utterly prostrate.

April 24.—I got out of bed and managed to crawl to camp; there was a great deal to do before starting, so I made a desperate effort to be about, as I was a little better, although still extremely weak. I received encouraging news from Mr. Stanley, who told me that Bonny's return of my company was the best of any; however, I discovered afterwards, to my great disappointment, that he had meant the neat and official way in which the return was made, and not the actual state of the company. I had lost four rifles; but, as Stairs has handed in three spare ones, there is but one missing, and this was taken by a deserter. I managed to visit all the sick. In the afternoon I received orders from Mr. Stanley to leave —with Barttelot—in advance, in the stern-wheeler *Stanley*.

As there were no rations in camp, Jameson was sent off to shoot hippo meat for the men.

April 25.—I embarked on the *Stanley*, with F Co. (now sixty-seven strong), and my two gun-bearers and donkey. Barttelot also embarked with sixty Soudanese. We were provided with a few boxes of brass rods (matako)—the money of the country. After steaming for five hours and a half, we reached an American Mission station, where we stopped. We were kindly received by these missionaries, and I ventured to eat some meat—for the first time for five days.

We cut a good deal of wood on shore for the steamer, and had most of it conveyed on board before the men retired for

the night. All our men slept on shore, close to the village of Mpoko.

Barttelot felt feverish this evening: I found his temperature 101° F. The American missionaries live chiefly on *chikwanga*—native bread or dough, which is not unlike "potato-cake," and is made from manioc root. The root is left macerating in water till it has become almost decomposed; this process has the effect of removing the poisonous principles. It is then pounded up and made into bread. The natives live almost entirely on this diet; we shall be obliged to live on it by-and-by—a comforting reflection!

APRIL 26.—We had the remainder of the wood carried on board, and steamed off at 7 A.M. I got very ill about 10 A.M., as I had been at work with the men since 4.30 A.M., and had got chilled.

We stopped at 3 P.M.; went on shore, and cut a large quantity of wood, to be used, like the rest, as fuel for the steamer. Barttelot's temperature this evening was the same as on last evening, 101° F.

APRIL 27.—Started at 6 A.M., and stopped at 9.30 A.M., near a village, where we all disembarked. The natives, on seeing us, all ran away into the bush, in great fright, evidently; this demonstration was satisfactorily explained to us on learning that their village was, not very long ago, burnt by the C. F. S. officers for some misdemeanour—one of the advantages of having civilised neighbours! In order to calm their apprehensions, we went on in front, unarmed, and accompanied by an interpreter. When they saw that we meant no harm to them they gradually returned, one by one; and we had the customary "palaver" with the chief, who, after a little time, became quite confiding, and presented us with a goat and some bananas, as a token of friendship. We gave him, in return, thirty-nine matako, and we concluded our interview on excellent terms. By these friendly means we obtained the service of guides for the next day, and the men procured a supply of chikwanga.

Barttelot and myself dined off my last box of sardines, and we retired to rest for the night, comparatively well and happy, at 7 P.M.

APRIL 28.—I took a look at my watch at 4.15 A.M., and commenced my elementary toilet. In about half an hour

the bugler sounded the reveillé. At daybreak we marched through the village and held another conference with the chief of the village before we obtained our guides. We then marched off, and got through twelve miles before noon.

One of our men deserted on the way. We crossed a great number of tracks of the elephant, the buffalo, and the hippo.

April 29.—We started at daybreak, and reached a village about 7 A.M., where we were obliged to stay about two hours diplomatising with the natives in order to obtain fresh guides, as our former ones had sulked and would come no further.

We marched till 11.30 A.M., when we met a river, at which we camped, having learned that the next water-supply was four hours' march away. As it was still early we sent back to see if any trace could be found of the man who had deserted, but without result. Many of our Zanzibaris know this part of the world well, as they were employed on the Congo by Mr. Stanley, when he was Governor of the "Free State." Their knowledge has its good and its evil fruits.

April 30.—We marched sixteen miles—about ten or twelve as the crow flies. We then halted at a morass, situated in the midst of a large open grass plain, where we got peaty water to drink. I shot a few pigeons, which we were very glad to eat. At the last village, three miles from the halting-place, the natives refused to let us know where the water was.

Early in the day we crossed a very deep and rapid river, the banks of which were extremely precipitous. The bank on this (the eastern) side was about perpendicular, still my donkey clambered safely up, although I thought, as I approached it from the water, that it would have been quite impossible for him to do it. It certainly would have been to an English donkey—or an Irish one.

The Soudanese march very badly—they are always lagging behind, and causing a great deal of trouble to bring them up.

May 1.—Left at 5.30 A.M. and at 10 A.M. reached the large village of Mswata. Barttelot and myself interviewed the chief, who graciously accommodated us with huts, and also housed our men. He even presented us with a goat and a fowl in token of brotherly friendship. We purchased a supply of manioc [called mohoga in the Kiswahili dialect].

We are to remain here till Mr. Stanley arrives, and employ ourselves in the interval in chopping wood to provide fuel

for our steamers. We expect him to arrive with the Expedition in a few days, *en route* for the Aruwimi.

MAY 2.—We continued to cut wood all day. The men were divided into batches in doing this work, and they went about in search of the fallen and withered trees, which were the only ones we could utilise, as the green timber of the fresh ones would not burn to advantage, being, of course, too juicy. The wood is like mahogany in consistence, but still harder, and brownish in colour—iron-wood I believe it is.

We visited several chiefs, who received us in a friendly manner. One of them presented us with a goat and a fowl. Such presents have, however, by no means the same significance as in more civilised communities—they simply indicate the existence of a hope of receiving double the value in return. Mr. Stanley had a station years ago at Mswata; but his kitchen, and another small house of European design, are the only traces of his sojourn that we found remaining.

There is no lack of provisions here; we, accordingly, utilised the favourable opportunity of fortifying ourselves against probable future starvation.

MAY 3.—Early out of bed and vigorously at work; the absence of the hurry and worry of marching, and the presence of a well-stocked larder are telling visibly on the physique of all of us.

MAY 4.—We expected the arrival of our leader. We had cut wood enough to work the three steamers for one day. I was to have gone after elephant and antelope for the day, but my promised guide did not turn up. Barttelot and myself are beginning to feel unwell to-day. I am afraid it is merely due to the sudden transition from scanty fare to rank overfeeding.

CHAPTER III.

THE RIVER JOURNEY FROM MSWATA TO YAMBUYA.

Arrival of the steamers at Mswata—Kwamouth Station—Tobacco cultivations—Elaborate hair-dressing of the men—Colour of the Kwa River—Stalking game in the early morning—I shoot a hippo—The *Stanley* steamer—We reach Bolobo—My uncomfortable quarters on board the *Henry Reed*—Lukolela Mission Station—Illness of Jameson and Nelson—Zanzibari grievances—Profuse vegetation on the Upper Congo banks—The Mohammedan fast of Ramadán—Equator Station—The "Black River"—The natives of Uranga village—Entertainment at Bangala Station—Death of Fathel Mohammed—Our Somalis again ill—Orchids and monkeys in the forest—Hostile demonstration at Upoto—The rite of "blood brotherhood"—Stanley's epithet, "Bula Matari"—Upoto women—We enter the cannibal regions of the Upper Congo—Idols and ornaments of the natives—Collapse of the *Stanley* deck-houses—Grass fire adjoining our camp—The burnt village near Yalumbo—The Aruwimi River — Stanley's black boy, Baruti — Canoes at Basoko—Warlike attitude of the natives—Arrival at Yambuya, where we land by stratagem—The native huts—Baruti and others desert us, returning to Basoko—Our camp is placed in a state of defence—Mr. Stanley's future plans—Manioc fields at Yambuya—Major Barttelot arrives with the *Henry Reed*—Tippu-Tib's station at Stanley Falls—Cutting firewood for the steamers—Our fortified camp—Lieut. Stairs sick; anxiety regarding his condition—Preparations for the march to Lake Albert Nyanza.

MAY 5.—The S.S. *Stanley* arrived at 11 A.M., with a barge belonging to the Sanford Expedition lashed alongside, carrying altogether about 350 men, including Stairs, Nelson, Jephson, and Jameson. Half an hour later, Mr. Stanley himself arrived in the *Peace*, accompanied by two boats, which conveyed Mr. Ward, with the Somalis and some Zanzibaris. Another hour and a half of expectation brought us the *Henry Reed*, accompanied by two boats carrying Zanzibaris, and Tippu-Tib with his party. Bonny, and Walker, the engineer, were also on board.

Jephson and Nelson were now ill; so I treated them, and attended to the sick among the men. One man in Jephson's company died to-day. I put three sick men on board, in exchange for three of my own men, who asked to be

allowed to march. [This was the first and last occasion I have ever had an opportunity of seeing Mr. Ward.]

MAY 6.—Mr. Stanley left early with the steamers. He gave orders to Barttelot and myself to continue our march to the mouth of the Kwa River (about twenty miles off), and promised that the *Stanley* would return on the 9th to bring us to Bolobo, where he would remain with the whole force of the Expedition for a few days. My company is now sixty-seven strong; Barttelot's fifty-eight. Accordingly, we moved off at 11 A.M.; and, after a march of ten miles, halted at a village, where our principal transaction was the purchase of a couple of chickens, for five brass rods each. These brass rods (matako) are about 22 inches long, of the thickness of an ordinary pen-handle, and easily bent into bangles and other ornaments to make the natives look smart.

MAY 7.—We resumed our march at 5.30 A.M., and reached the mouth of the Kassai river, near a village named Kwamouth, a former station of Mr. Stanley's. The French missionaries occupy a house which was built by him during his residence here—it is the only one left of the older settlement. The missionaries entertained us most hospitably; housed and fed us for the night, and also provided shelter for the men. This was very opportune, as rain fell very heavily during the night.

In return for the kindness of the missionaries, we presented them with a goat, a chicken, and some rice and peas.

MAY 8.—We cut wood for the *Stanley* and did some sewing. The missionaries continue to bestow their hospitality.

I have noticed, since we left Leopoldville, that tobacco is cultivated in great quantities by the natives along our line of march, but does not grow wild. The women smoke their pipes much more constantly than the men.

The men have their upper incisors removed, or filed down in the centre, so as to form a ∧-shaped notch. Their hair is dressed up in a very elaborate fashion—a chignon-like mass is formed, with something inside it to preserve its shape. The women do not pay nearly so much attention to their hair as the men, and some of them let it grow completely wild. Some of the men wear a pair of *horns*, formed by plaiting the hair so as to project laterally on either side above the ears, and a third hairy plait hanging from one side of the chin. Also, the men

carry a wooden rest for the neck (in lying down), to prevent disarrangement of the hair. Some have their hair plaited right down on to the scalp, so that the plaits cannot be lifted up. The latter are most elaborately worked, and are well kept in their form and desired position by a cohesive mixture of castor-oil and filth of varied composition.

MAY 9.—Were employed to-day also in cutting up wood for fuel.

MAY 10.—We received a present this morning from a neighbouring chief, in the shape of a goat, a chicken, twelve cakes of chikwanga, a banana-leaf of manioc flour, and ten heads of Indian corn. As is customary, we made a present in return; consisting of fifty matako—the value of one matako is three halfpence, wholesale.

To-day my poor donkey has high fever, the effect of crossing the last river. He has had attacks of this kind several times up to the present, and always following the same cause. His temperature runs up very high, his hair stands on end, his ears droop, and he looks very miserable all over. Like master, like animal. I nearly always get fever myself when I wade a deep stream—a slight febricula has frequently followed even a cold bath since I commenced to cross Africa. So I have been obliged to make a rule to have my bath always comfortably tepid, *i.e.* when practicable.

MAY 11.—Barttelot was feverish to-day. His temperature 102·4° F. I have arranged to take a day's shooting as there are great numbers of game here. Early morning is a good time to get them, so I have determined to sleep in the bush to-night, and lie in wait near the water where they come to drink, as they do in the morning regularly. By following the trail of elephants they can be found standing asleep about noon—generally in the middle of the plain—and, by approaching quietly, one can often get within twenty or thirty yards without disturbing them.

The Kwa River is very much darker than the Congo. This is due to the fact that its water contains a very large quantity of suspended matter, making it very muddy indeed.

MAY 12.—I was disappointed in my stalking this morning, after my night in the bush. We are now anxiously awaiting the return of the steamer for us. Barttelot was much better, as I had given him a great deal of quinine. We cannot, of

course, guess the cause of the delay of the steamer, which was confidently promised us for the 9th; perhaps an accident has occurred, as Mr. Stanley had anticipated a long shauri (palaver), or, peradventure, a row, with the natives, so that we have some reason to be uneasy. Our supply of matako is running short, and we have given another goat and some rice to the missionaries. We determined that if the steamer has not arrived by to-morrow morning I am to go up river, with eight Zanzibaris and their rifles, in a canoe, and try to find out the cause of the delay.

While out in a canoe this morning, I had a shot at a hippo, which passed through the ear. It sank when hit: this you must almost always anticipate, and sometimes several hours elapse before it floats to the surface. In the meantime it may be carried far down stream by the force of the current, so one has to wait and watch—with or without patience. The entire beast weighs about 2 tons; the meat is greatly prized by the natives for food; the hide is correspondingly useful in making shields, which protect the body from arrows in their tribal wars.

While watching and waiting for the re-appearance of my wounded hippo, the *Stanley* came in sight, which relieved us of our principal anxiety. So I left my hippo to his fate.

The chief of the neighbouring village came upon the scene to-day, and enjoyed a rather warm reception at our hands, as he has been long treating the missionary fathers in an extremely high-handed fashion. He was now frightened at unexpectedly meeting with our superior force.

Pineapples grow in abundance here.

May 13.—We were actively astir in the early morning, as we have been in good spirits since the arrival of the S.S. *Stanley* dissipated our anxieties. All the wood was put on board, the men embarked, and we started at 6 A.M. for Bolobo.

As the voyage progressed, I found myself passing into an increasingly bad humour, and very talkative, which I now know well are the premonitory symptoms of coming fever. At 5 P.M., my temperature was 102° F.; at 7 P.M., it was 105° F. I took 25 grains of quinine as an antipyretic dose. Shortly afterwards, in the sweating stage (6 P.M.), I very nearly made a "Humane" medal, as a man fell overboard, and on hearing a great fuss I rushed out of my cabin,

and was about to jump into the river; but, hesitating between discretion and valour, I afforded the submerged individual an opportunity of seizing a rope, with which he was hauled on deck.

We stopped about 4 P.M., and went on shore to cut wood for fuel. We then camped for the night.

MAY 14.—We continued our wood-cutting this morning, till about 7 P.M. I felt pretty well; my fever had quite gone. Barttelot's temperature, however, still remained pretty high.

We steamed off a little before 8 A.M., and arrived at Bolobo at 4.30 P.M. Barttelot and myself have now done over 100 miles extra marching.

After disembarking at Bolobo, I visited all the sick, both officers and men; there were, of course, a number of new cases.

MAY 15.—I was transferred to the *Henry Reed*, with thirty-five Zanzibaris. Tippu-Tib's party also came on board with us. It is now arranged that Barttelot is to remain at the proposed entrenched camp at Yambuya. Bonny and Ward were left at Bolobo with 131 men, to follow us in the *Stanley* after an interval of fifty days. She is to return for this purpose from Stanley Pool, and to bring with the men the remaining stores which we are now leaving behind. I left Bonny some medicines, instruments, and comforts, for which I got a receipt; also a book of medical and surgical instructions.

MAY 16.—I found extremely uncomfortable quarters on board the *Henry Reed;* as there is but one cabin, and this is occupied during the day by eleven filthy, dirty negresses of Tippu-Tib's harem. I am obliged to occupy this malodorous den by night, so I naturally spend as much time as I can on deck, to get the fresh air. I partitioned off one part of the cabin—for toilet purposes—by suspending a blanket.

We stopped at 4 P.M., and renewed our wood-cutting operations.

MAY 17.—Everybody came on board early, so there was a great deal of bustling. The order is that all persons connected with the Expedition are to spend the night on shore. All space was occupied, and the boats, which were lashed alongside the steamer, were crowded with men. We started at daybreak, and stopped at 4.30 P.M., at a very difficult landing-place. The trees grow down to the edge of the bank,

and spread their branches a long way over the water, and, as the banks themselves have been pretty extensively undermined by the action of the current—leaving withered trunks of trees and snags above the projecting shelf, while crocodiles and hippo floundered in the mud below—the operation of landing was not only difficult, but dangerous.

I assured Tippu-Tib that I would do what I could to make him comfortable, and recommended him to have his women washed.

MAY 18.—Spent another uncomfortable day. We followed Mr. Stanley as well as we could — he steamed ahead of us in the *Peace*—till about 3 P.M., when we went aground. We then changed our course and made for an island, where we put up for the night, and cut wood. Since leaving Bolobo the river widens out, and in this part of its course has a width of about eleven miles. Traces of the elephant and the buffalo may be seen close to the bank here and there, while hundreds of hippo and crocodiles are visible every day.

MAY 19.—We arrived at the Lukolela mission station, and found the *Peace* there, but no sign of the *Stanley*, so that everybody thought she must have met with an accident. The mission station consists of one straw hut, built close to the remains of a former C.F.S. station erected by Mr. Stanley. It belongs to the English Baptist Missionary Society. Two very agreeable white missionaries live here, in solitary innocence of what is going on in the civilised world, contentedly devoting their energies to the conversion of their negro neighbours.

Our leader is, as usual, very reticent. He gave orders to the captain of the *Henry Reed* to get up steam, as he said he wanted to go down river in search of the *Stanley*. However, he afterwards started in the *Peace* at 4 P.M., but in an hour had sighted the *Stanley*, and returned with her at 6 P.M.

MAY 20.—Jameson and Nelson were suffering greatly from an attack of acute gastro-intestinal catarrh. This is a very usual ailment of the white man in sub-tropical Africa, and often simulates dysentery rather closely; but it differs from true dysentery in the fact that the large intestine is not so much affected—it does not proceed to ulceration—and there is no tenesmus. I gave them milk, and administered astrin-

gent medicines. I had a considerable number of sick on hand besides, to all of whom I gave the necessary medicines.

At 9 P.M. about a hundred Zanzibaris, with their rifles, came from the *Stanley* to interview Mr. Stanley, and lay their grievances before him. They complained that they had been unjustly punished by the officers on board. Jephson and Stairs —against whom the complaint was made—were questioned on the subject, when it appeared that the men had looted a native village in direct disobedience to orders, and the plunder was, consequently, confiscated as a punishment. Jephson and Stairs were both ailing; some feverish language followed, but after further explanation and apology the affair was smoothed over, and never once thought of again by either black or white.

MAY 21.—At daybreak we started in the steamer, and proceeded up the river. Profuse vegetation of the richest type abounded on either bank.

Since yesterday, Mr. Stanley has decided to allow each officer four matako per diem to provide chickens for food. As only the smallest chickens can be purchased for three or four matako, there is, owing to the men's extravagance, no danger of over-feeding.

MAY 22.—We passed Ngombé, and other large villages. Still the same lavish profusion of vegetation flourishes on the banks of the Congo.

MAY 23.—Preparations for the great Mohammedan fast of Ramadán (the Muslim "Lent") began.

We passed the village of Usinde. At Lukolela we purchased two fowls; no more could be procured, as they were very scarce, so we were obliged to arrange that these should satisfy the appetite of three of us—the captain of the *Henry Reed*, Walker (the engineer), and myself—for four days. The captain was, however, possessed of some tinned sausage, which was thrown in; the rest of the *menu* was filled up with beans and rice.

The three steamers, *Stanley*, *Peace*, and *Henry Reed*, kept together till 10 A.M.; when the wood-fuel of the former ran short. We expect to get to the Equator Station to-morrow.

The missionaries at Lukolela told me that whenever a chief dies several people are sacrificed; this explains why it is that so many skulls surround some of the graves—an effective remedy in "congested districts."

We passed the village of Irebu. There are large inland lakes not far from this part of the Congo.

We passed the mouth of a very dark water tributary of the Congo.

Tippu-Tib and the members of his party, and also all the Nubian members of the Expedition, observe the Ramadán ceremony religiously; they abstain from food till the setting of the sun. The Zanzibaris and Somalis are not such earnest Muslims.

MAY 24.—We arrived at Equator Station, which is situated 1½ mile north of the line, about 5.33 P.M. We found it to consist of two houses, the first (as we passed up river) is occupied by the Baptist missionaries, one of whom is an Irishman; the second by Mr. Glave, of the Sanford Expedition, and Captain Van Gele, of the Congo Free State.

Ivory is the chief trade of the place. It is purchased from the natives for spoons, forks, plates, beads, cloth, &c., &c., and afterwards sold for eight or ten shillings per lb.; the dealers realising a couple of hundred per cent. on the transfer.

MAY 25.—We spent the whole of this day cutting wood, which is now a very necessary item with us. The stay also gave the men the chance of buying food. We all dined with Captain Van Gele and Mr. Glave, and enjoyed a good and abundant meal.

I was changed to the *Stanley*, and Jephson took my place on the *Henry Reed*. This was on account of the large number of sick on board the former. I am delighted at the change, but poor Jephson's olfactory and optic nerves will be ruined by having to sleep downstairs.

MAY 26.—We left the Equator Station at daybreak. Imdiately afterwards we passed the "Black River," so called from the deeply dark character of its water. The river is thickly studded with islands in these parts, which are quite covered over with trees and underwood. The islands usually vary from a quarter of a mile to four miles in length.

MAY 27.—We arrived at the village of Uranga about 11 A.M., where we stopped and remained all day. This respite was in order to give the men an opportunity of buying some provisions, which they did—in the shape of bananas, manioc-bread, and plantains. The Zanzibaris thrive very well on this food, but it does not seem to agree by any means so well with the

Somalis and Soudanese, who continue very delicate and sickly, especially the Somalis. We also managed to procure some chickens and a few goats.

The men in this part of the country all carry long spears and shields; they have no guns (unlike the natives down river). The women wear a very artistically plaited kilt made of bark fibre, and suspended from the waist: they also wear broad straps over the breasts.

MAY 28.—We left very early; a large crowd of natives came to see us off. Amongst them was a chief, who presented Jameson with a goat last night. He had given it nominally as a present; but, as he received nothing in return, he came back to claim his lost property. All the African chiefs appear to be fond of giving *presents*, but it is always understood (at least by themselves) that they are to receive something more valuable in return.

MAY 29.—The three steamers started together, keeping their respective distances fairly well as they went on. Here and there, as we ascended the river, the natives came from the banks to meet us, sculling their dug-out canoes, and offering to sell us chickens and manioc-bread. They were certainly very friendly in their demeanour.

MAY 30.—Abdi Mohammed—a Somali boy—died of exhaustion.

After two and a half hours' steaming we reached Bangala at 12.30 A.M. This is the furthest station on the Congo at present occupied by white men. The native village is a large straggling place, extending twelve miles in length. The small Congo Free State station—where Lieutenant Baert and Lieutenant Linant, with four other white men, live—is surrounded by a strong earth-fortification, and includes a brick factory. There is a small Krupp gun here, which was fired three times in quick succession, in honour of our advent.

The women appear to be disproportionately numerous here; they wear picturesque fringes of brown bark-fibre cloth, pretty nearly identical in shape and make with a Highland kilt. I could not help thinking at the moment what an attractive ballet costume it would make for our theatres at home.

Barttelot received orders to embark on the *Henry Reed*, and accompany Tippu-Tib with forty Soudanese as far as Stanley

Falls; where he is to leave him, and return to the Aruwimi River.

The little steamer *En Avant* was now exchanged for the *Advance*. The latter boat is to be lashed alongside the *Peace*.

We dined with the C.F.S. officers. After dinner our leader made a short speech; and we all drank the health of Leopold II., King of the Belgians, in the only bottle of champagne procurable at the station.

MAY 31.—Major Barttelot, with forty Soudanese, and an interpreter, left in the *Henry Reed*—in company with Tippu-Tib and his party. They steamed away at 6 A.M. His orders are to proceed till he arrives close to the "Falls," land Tippu-Tib's party, and then return to the Aruwimi River to meet us. If the tallest tree at the mouth of the Aruwimi is then found "blazed," it will be a sign that we have proceeded up that affluent; otherwise we, who follow in the other steamers, have not yet arrived. He is to bring back a bullock from Tippu-Tib; an event to which we look forward with eager anticipation, for we have grown thoroughly tired of tough goat's flesh.

We breakfasted with Lieuts. Baert and Linant, and left in our respective steamers at 1 o'clock. Before starting, I purchased a handsome spear for a tablespoonful of salt.

JUNE 1.—We left at daybreak, and steamed on as quickly as we could so as to catch up the *Peace*, which had had three-quarters of an hour's start of us. The river in this neighbourhood is divided into six or seven channels, separated by islands varying in length from half a mile up to forty miles, so that the steamers might very easily lose sight of one another. This will be a source of anxiety in the future, as we have now bade good-bye to civilisation, and we may fall among unfriendly tribes any day; although, up to the present, they have certainly shown a very kindly feeling towards us.

We had a very heavy fall of rain to-day.

At Bangala many people suffer from elephantiasis. This is the first of the disease I have seen on the Congo.

JUNE 2.—Fathel Mohammed (one of our Soudanese) died this morning at about 4 A.M., and was buried before the steamer started. He suffered from sunstroke on the march, before leaving Kwamouth; and since that date he had got

gradually worse, and sank at last from exhaustion. Jameson and Jephson were far from well to-day.

We kept close to the *Peace*, which preceded us during the whole of the day's journey. One of our chickens died a natural death to-day; and, as it is with difficulty we can secure even one a day, we can have no animal food for the morrow, and are, accordingly, obliged to try and content ourselves with the anticipation of biscuit, rice, and plantains.

JUNE 3.—All the Somalis are ill: one of them dangerously so. Their failing health I am disposed to attribute to their being accustomed to the dry desert air of Aden, and, consequently, quite unfit for the conditions of life here, in a damp, swampy country, where the air is laden with vegetable emanations. They all got rice and biscuit, in addition to their ordinary rations of matako, on account of their delicate health. Some of the Zanzibaris, and a few of the Soudanese, were granted the same indulgence. Our interpreter, Alexander, has also been allowed extras.

On to-day's journey we steamed well; passed the *Peace*, and sighted the *Henry Reed*. We stopped at 4 P.M., and proceeded to procure some wood as fuel.

Jameson was much worse to-day; he had a very bad night.

JUNE 4.—Abukir Mohammed—formerly a policeman, and married—died at 5 P.M., from cerebral disease. He had already been completely comatose for two days. He was buried close to the river's bank. Jameson is much better, and able to take his beef-tea, arrowroot, and milk with considerable relish. The *Peace* passed us this morning. I gave my boys the rod for losing a suit of pyjamas belonging to me; I shall soon be without any clothes at all, and must have recourse to the time-honoured fig-leaf, if any grow in this land.

There is an enormous quantity of orchilla-weed in this part of the world; it grows from both dead and living trees. Orchids also present themselves in great variety. They grow on the larger trees, but do not flower except where exposed to the sun rays. There are no good fruits. Camwood is common, and is much used as a dye by the natives of the Congo banks.

JUNE 5.—Hundreds of monkeys were seen among the trees to-day, swinging and jumping from branch to branch; their movements were accompanied by the most comical antics.

We have not seen a village since Friday last (3rd June).

The islands in this part of the river are much longer, and the bush by which they are occupied is extremely thick; it is impossible to get through without the continuous use of bill-hooks.

We stopped at 3 P.M. to cut wood. The *Henry Reed*, with Barttelot and Tippu-Tib, passed us at 4 P.M.

JUNE 6.—We started early, and soon sighted the *Henry Reed;* after which we soon stuck on a sandbank, and were well behind in the day's race before we could get clear. We have not seen the *Peace* (with Mr. Stanley on board) since Saturday afternoon (4th inst.) Osman Hadriz (Nubian) was buried at the camp last night; he sank yesterday from the extreme debility produced by the spreading of two enormous sloughing ulcers on his leg. I had a good night's rest, as there were no mosquitoes. The air during the day was beautifully cool and fresh; as the atmosphere was cloudy, and we were thus quite shaded from the direct rays of the sun. There were orchids on every other tree in the vicinity of our camp last night; but, unfortunately, they are not in flower.

We arrived at Upoto at 10 A.M., and we naturally expected to find the *Peace* before us. However, there was no steamer in sight.

As the men had finished all their matako, we stopped at the village, in accordance with Mr. Stanley's previous orders. As we neared the shore all the women ran into the bush, but the men came to the shore in full force, and all armed with spears and shields. One wild Aborigine had an old musket which he flourished around his head as he ran frantically up and down, appearing to think that his performance would scare us from the bank. In order to avoid a direct collision we put off and floated down stream for about three hundred yards; and, notwithstanding the hostile demonstration, ventured to land. Through the medium of our interpreter we tried to appease them, and succeeded—after about two hours' palaver; when they consented to perform the rite of "blood brotherhood." This duplex operation Stairs consented to perform with the chief. It consists in lancing the forearms of the two persons entering into the compact, and mixing the blood. The natives then brought food, and we all disembarked immediately afterwards. Our men went off in detachments to cut wood. At about 4.30 P.M. the *Peace* steamed up,

and the natives all ran away on her approach, although we told them that it was Bula Matari (*i.e.* Mr. Stanley) who was coming. Mr. Stanley had this name given him by the natives on the Congo years ago. It means the "*rock-breaker*," and originated on one occasion when the native workmen, who were engaged in constructing a road, had been making abortive attempts to break a large obstructing rock with their sledges. In order to encourage them to more energetic efforts, Mr. Stanley took a sledge, and, saying to the bystanding workmen, "Look at me," he—taking skilful advantage of the direction of the planes of cleavage—with a well-directed blow, knocked off a huge piece: a feat which made an immense impression, and led to the conferring of the above epithet.

We feared there would be a shindy with the natives on Mr. Stanley's arrival, but they did not give any trouble. Our chief was annoyed on coming on shore, and said that we had delayed him. The misunderstanding was, however, owing to the fact that the *Peace* had steamed ahead of us on Saturday (3rd inst.), and we, having lost sight of her among the islands, accidentally took a different channel.

The men received six matako per day—for eight days—to buy food with.

The shore opposite Upoto is covered with oyster shells.

JUNE 7.—We spent the early part of the day in cutting wood, and at noon we steamed off in company with the *Peace* Very few of the natives came to the shore to see us off. They remained at some distance off, armed with spears and shields.

The women at Upoto wear no clothes whatever, and come up to us in the most unreserved manner. An interesting gradation in the arrangement of the female costume has been observable as we ascended the Congo. The higher up the river we found ourselves, the higher the dress reached, till it has now, at last, culminated in absolute nudity.

The cannibal regions also commence here. The natives offer for sale necklaces, and other ornaments, made from the teeth, dried fingers, &c., of their victims.

All along the river we have been meeting idols of various shapes and sizes, most of them, however, representing human beings. They diminished in number, however, as we ascended the river, and pretty nearly in the same ratio as the feminine apparel.

JUNE 8.—We had a quiet night at camp, although we had felt some anticipation of trouble with the natives.

JUNE 9.—There was an unpleasant catastrophe to-day, owing to the deck-houses falling over to one side. These supported the upper deck, which was crowded with the men, and had not been constructed of sufficient strength. Wooden supports were, accordingly, prepared and fixed in the weakest places.

We passed a large village, where the natives showed fight; but, as we had a supply of plantains, manioc, goat, and chickens on board, we were not obliged to come into contact with them. We passed ten war-canoes, manned by fourteen men each.

After landing, I sat up with the men, who were cutting wood by the light of immense fires, until 1 A.M. Tracks of elephants and hippo can be seen in all directions through the bush. Monkeys are also very numerous, and insects innumerable. The plumage of the small birds and the colour of the butterflies are strikingly gorgeous and brilliant.

JUNE 10.—We left sharp at 5 A.M. At 11 A.M. we found the upper deck of the *Stanley* coming down again, owing to the weight of ninety men, with their kits and provisions, who were quartered on it. So we were obliged to get all the men down, and place some new supports under the falling structure.

JUNE 11.—The grass close to our camp was last night accidentally set on fire by some of our men; and, as the wind was blowing towards us, there was the greatest alarm lest everything should be burnt. All the men were turned out, and the fire was, with considerable difficulty, thoroughly extinguished, after which we were able to rest in comfort.

At 9 A.M. we passed a large village which had been burnt during the night. We thought this might have been done by Barttelot's or by Tippu-Tib's people, as they are but one day ahead of us. It is also possible that Tippu-Tib's people may have come here from Stanley Falls in search of ivory, and we were led to suspect that this was what had really happened, on seeing a canoe similar to those used at the Falls, lying close to the bank.

We ran against a snag this afternoon, but it did no permanent damage. We passed several large villages.

Stairs is again down with intermittent fever.

JUNE 12.—We passed a large village on the left bank.

We ascertained that the burnt village we saw yesterday had received its destruction at the hands of neighbouring natives on account of a tribal quarrel, brought on by a difference of opinion as to right of possession of the person of a young female.

We now entered the Aruwimi, which is much broader than the Nile at Cairo. We stopped for the night on an island opposite the Basoko village, close to the junction of the Aruwimi with the Congo. The streams here unite at an acute angle. Mr. Stanley had gone on in front, and landed his black boy Baruti at his native village of Basoko. He is about fifteen years old, and had been given by Tippu-Tib to Sir F. De Winton, after which he was transferred to Mr. Stanley. He has lived some years in London, and speaks English well, but is an atrocious young ruffian. His sisters and brothers recognised him after some time, when he showed them a scar on his back, which he received from a crocodile when a boy. Mr. Stanley told him that he could remain with his family if he liked, but he says he prefers to remain with his master. His brothers and sisters wept when he was leaving them.

Basoko has several thousand inhabitants. They are very savage indeed. The *Peace*, with Mr. Stanley on board, crossed the channel of the river to the island (about 1000 yards in width), and asked the natives (through Baruti) to cross to us and sell us provisions; but they were too timid to come.

Baruti's reason for not staying with his relatives we were strongly disposed to attribute to a suspicion that he would be cooked and eaten by them.

We have been greatly impressed by the canoes used by the natives here, and by their mode of managing them. They stand up while paddling their canoes, and they make them appear and disappear among the reeds and bush near the bank in a perfectly marvellous way. The handle of the paddle is ornamentally tipped with ivory. They carry their shields in the canoe, and when fighting they hold them up in a row so as to form a good protection against spears and arrows.

JUNE 13.—We cut wood, and remained till noon, in the fond hope of being able to purchase some provisions from the natives; but not one of them would come near us, although Baruti spoke to them at a distance, and assured them again and again that we did not intend to fight, or make ourselves

disagreeable in any way. Jephson's donkey died last night; it cannot be replaced in these parts.

I resected the elbow-joint of one of the Zanzibaris, who had been accidentally wounded by a hatchet.

When leaving Basoko, a very large crowd of natives suddenly appeared on the banks; they had been hidden away in the bush and long grass, close to the water's edge, and would not appear till we had moved off. Basoko is situated in longitude 25° 14′ E; latitude 1° 15′ N.

JUNE 14.—Last night we stopped at a small village, and our men went on shore, but could find no provisions except plantains. We stayed there for the night; the natives fled precipitately into the bush, but we heard tom-toms and horns sounding high in the surrounding villages so as to warn the inhabitants against us. Two minutes after pushing off from the bank in the morning the natives swarmed to the river's brink in enormous numbers, fully equipped with spears and shields. They had been quietly collecting in ambush (in the long grass) all night; and, had we remained much longer, they would have surrounded us in so great a number that they must easily have overpowered us.

The atmosphere was very foggy in the early part of the day. It cleared about noon.

Last night, I had an attack of intermittent fever. I was, however, quite well at 3.30 P.M. to-day The fever then came on again; my temperature at 4.30 P.M. was 102° 4′ F. Jephson also was feverish.

JUNE 15.—When we started in the morning I felt quite "fit." Jephson was still feverish. We stopped at 11 A.M. to cut wood. There are not many villages on this part of the river. The north bank here rises to a height of thirty feet; it is the first time we have met a high bank since we left Leopoldville. We reached the first cataract on the Aruwimi at 6 P.M. Here is situated the village of Yambuya, where the entrenched camp is now to be constructed. Accordingly, we all had to pack up our belongings, as we must leave the steamers—the river not being navigable further, on account of the cataract. When we neared the place, Mr. Stanley steamed over to the left bank, where he palavered with the natives; and afterwards returned to the right bank, where we all stopped for the night.

JUNE 16.—Orders were given last night for the *Peace* to leave at 6 A.M. with Mr. Stanley, and cross to the village of Yambuya on the opposite side. He was to try to make peaceful terms with the natives, and we were to have steam up and keep the *Stanley* just on the move in mid-stream, so as to be ready to give assistance if necessary. Mr. Stanley was to blow the whistle of the *Peace* in case that satisfactory terms could not be made with the natives. They did, indeed, when he came to close quarters with them, agree to give us provisions, &c.; but refused the thing we specially wanted—to allow us to land, and make ourselves a fixed position there. This was annoying, as there is no other place that can be selected with a suitable sanitary and strategical position but this, as the village occupies a very favourable site on high ground, and is in every way specially adapted for our purposes. After a long conference with the natives, the whistle of the *Peace* announced that we were to land and take up the position. Jephson's company came first; they were arranged in line along the shore, and instructed to march in the same order—through the village, and as far as the bush at the back. Nelson's company, with mine, were to hold the village above; and Stairs' company was to search the place. As the villagers had, however, all skedaddled on the approach of our steamers, we had no difficulty in taking possession of the place; but we were obliged to take great precaution in the posting of our sentries, as the natives were lurking in the bush close by.

We found the huts small in size, and conical in shape; they were constructed by sticking poles in the ground so as to enclose a circle of the requisite diameter, about the size of a regulation bell tent, and then tying them together at the top, thatching with leaves and grass—and making an earthen floor raised two feet above the ground. They were told off to our men—one hut to six men. Our tents were pitched, and a circumferential space of fifty yards in width was cleared all around the camp. The latter was a very necessary precaution; as the bush was very dense around us, and easily concealed the treacherous natives, whom we knew to be crouching in it in all directions, waiting for an opportunity of attacking us.

JUNE 17.—All ammunition, baggage, and stores, were removed from the steamers to our camp. Baruti, the black

Basoko boy, who had been well treated by Mr. Stanley, deserted—running away with three other boys. They took a canoe and returned to Basoko, although Baruti had declined the offer of staying when he was there. So his movement has not corroborated our former suspicion of his fearing that his friends and relations would celebrate his return by feasting on him. They carried off with them Mr. Stanley's revolver, without ammunition; and a Winchester rifle—with 100 rounds.

A trench—of three feet deep—to surround the camp was commenced; the boma (stockade) will be about 200 feet across. Poles of nine feet in length have to be provided and placed in the trench (side by side), so as to have six feet projecting; they will form a strong wall of defence. There is, however, a hill 250 yards off; from which an enemy, if provided with rifles, could conveniently fire into us.

In the evening, Mr. Stanley called his officers into his tent and informed us that he intended marching to the Albert Nyanza, relieving Emin Pasha by handing him over the ammunition, and returning to Yambuya about October or November. He would leave the entrenched camp here in charge of Barttelot and Jameson. He went on to say that Barttelot was not sufficiently forbearing, but that Jameson's experience of Africa would, he thought, correct his impetuosity. Also, that Tippu-Tib with 600 men were coming here, to assist in carrying the ammunition to Emin Pasha.

JUNE 18.—All the men were hard at work to-day cutting wood for the *Stanley*, which is to leave to-morrow, to return to Leopoldville. I was sent, with a reconnoitring party, to ascertain the extent of the manioc fields. I found that they occupy an immense area, and are capable of sustaining the garrison of Yambuya for years, if necessary; as it has fed the villagers, who are, at least, ten times the number of our garrison. There is, however, little or no prospect of obtaining any other provisions, as game is scarce—on account of the fact that the river bank is very high in this neighbourhood, which does not afford animals the convenience of coming down to drink; so that they are obliged to occupy more accessible parts. The hippo also seems scarce. The natives refused to sell any food, but we hope that they will change their minds after a time, when they have had an opportunity of seeing

that they will be honestly paid for their goods, and not plundered—as they have usually been accustomed to.

I have given up the F Co. now, and have but the G Co. to look after. I am very glad that Mr. Stanley has given me a company like the other officers, as I shall have my own men to look after me, and it is a real relaxation and pleasure to have other work, to alternate with the constant anxiety and troubles of attendance on the sick only.

JUNE 19.—We cut wood for the *Stanley*, and expect that she will be ready to start down river to-morrow at noon, with the *Florida* alongside.

JUNE 20.—Heavy rain fell last night. The *Stanley* left at noon, with an enormous quantity of wood on board. The captain and engineer said that it was quite sufficient for nine days. This large provision of fuel is very necessary as there are but a few Snider rifles on board, so that they could not resist much fighting, if they had to deal with hostile natives. Accordingly, she can go straight on to Bolobo.

Jameson is not at all well. Our donkeys are picking up after their long journey in the steamers. Barttelot is expected; but there is no sign of him as yet.

We went on cutting wood to-day, to provide for the other steamers in going down river. Our camp is 1,400 feet above sea-level. About two miles up river there is a bend in its course, and, in this situation, a succession of rapids and small cascades, which effectually prevent any attempt at navigation.

JUNE 21.—No natives have as yet come in to us. They, however, paddle their canoes close to the bank, and sell fish to our men. Nearly all the natives who deserted the village have gone and settled on the opposite side of the river, close to the water.

My boy managed to break one of my water-bottles to-day, which is rather annoying, as there may be scarcity of water on the march to the Albert Nyanza.

JUNE 22.—Barttelot arrived in the *Henry Reed*, at 4 P.M.; he had left Tippu-Tib at the Falls. Tippu-Tib's men, he told us, had had a big fight with the natives, and had got themselves cut and slashed in a fearful manner, with knives and spears—the latter mostly barbed.

Tippu-Tib's station at the Stanley Falls was taken by him in September, 1886, from the Congo Free State; Mr. Deane

was then commanding. The attack on the station was all on account of a black slave who had been beaten by her master; and, in consequence, ran away and took refuge in the fort. Deane would not give her up, and the result was an attack on the fort by Tippu-Tib's Manyuema, which ended, after three or four days' fighting, in the rout of the Congo Free State garrison. Tippu-Tib stated that he did not order the fight, and did not even know of it till afterwards. The refugee slave—the *casus belli* in the above case—is now married to a Houssa at Bangala, and she was unwisely shown to Tippu-Tib on our way up river. And Tippu-Tib is now himself appointed chief of the station which his people formerly wrenched in this way from the Congo Free State! This diplomatic move was made by the King of the Belgians on Mr. Stanley's suggestion.

The station itself is situated on an island opposite the Falls, and surrounded by a strong stockade; there are three Krupp guns, with breech blocks and other appurtenances thereof, all complete. It was stated that the breech blocks had been removed by Deane before he retired, but Barttelot told me there is no doubt of their presence in the fort now.

Our entire force now collected here numbers 512.

JUNE 23.—Alexander, our second interpreter (with the Nubians), died of acute dysentery—occurring, as it did, in a very weak and debilitated constitution.

The men cut wood for fuel, to take the *Peace* and *Henry Reed* down river. Some of the Nubians went out foraging on their own account, and one got severely wounded by the spear of a native, which penetrated the abdominal wall and glanced along the ilium, exposing the intestines. I brought the parts together, after cleansing the wound, and fixed the edges with hare-lip pins and twisted suture. His condition is now, of course, a very precarious one.

JUNE 24.—Barttelot received his orders from Mr. Stanley. He is to march, when his men are collected, so as to meet us on our return journey, although he is allowed the option of remaining—if he does not consider himself competent to move, after he has discarded a quantity of his impedimenta.

The *Peace* and *Henry Reed* left at daybreak, on their return voyage down river. I sent my letters and a few other things

home, viz., some curios, one tusk of ivory, two shields, two spears, one paddle, and the fringe of a native female.

All available men were set to work cutting poles for the palisade to surround our camp, which will be about 200 yards around. The trench itself is to be six feet wide, and three deep.

JUNE 25.—Men very busy in cutting and carrying poles to camp. They were placed side by side in the trench; and then fixed in this position by having earth thrown in, and pressed down. The plan includes three gates, one on the east side, one on the south—this latter is close to a good spring—and one on the north, leading towards the river. Stairs commenced the construction of the eastern gate, but soon had to give it up, as he began to feel very ill. The fever was on him, and when I saw him a short time after, his temperature was 103° F. Still he actually felt *chilly* then, and thought it unnecessary that I should take his temperature. I gave him a large dose of quinine.

Jameson had eight or nine canoes hauled up to the camp, and a large number of paddles stored away; lest they should be wanted for emergency occasions, as steamers will not, of course, be available.

Our encampment is somewhat triangular in outline, with the angles rounded off. The river forms the base; and, in this position, the bank is very precipitous. Half of one of the other sides of the triangle is protected by a natural ditch.

JUNE 26.—Barttelot and Jameson will be alone until the arrival of Bonny, Ward and Troup, and will fortify the place still further when we are gone. They will have to make a ditch along the less protected part of the camp, including one half of the southern aspect—outside the palisade. Jephson, who has charge of our steel boat, got her up, and had the sections separated and tied on poles, ready to be carried with us on the march. Stairs still very poorly; temperature 102° F. in the morning, and 103° in the evening; his skin remains very dry, and tongue foul. I gave him a large dose of quinine. I finished the eastern gate (the main one) which Stairs had commenced. I pegged the boards on with wooden pegs, and swung it from the top cross-bar; so that it is only necessary to push it up, and support it on a rest, to leave it open. Not being a Royal Engineer like Stairs, I forgot to

wedge the wooden pegs—which imperfection caught the eye of our observant leader; and, accordingly, I expect that when the wood dries and shrinks the whole structure will come to pieces.

JUNE 27.—This morning Stairs' temperature was 102° F.; it rose to 103° at 8 o'clock in the evening. The medicine has acted, and sweating is now established. I proposed to Mr. Stanley that he should be left behind, as I was greatly afraid of the consequences of his starting with the advance column, which has already received orders to march to-morrow, for he has undoubted typhoid symptoms, modified by malaria. Accordingly, Mr. Stanley ordered Jameson to hold himself in readiness, and said that, as it was my opinion that Stairs had "typhoid" symptoms, I should remain behind to treat him for this very serious condition. However, Stairs was full of hope of a speedy recovery, and retained his buoyancy wonderfully; expressing the strongest desire to accompany the advance column. Encouraged by this hopefulness, and feeling sure that a change would be desirable for the malarial poisoning from which he was evidently suffering, I recommended that he should come with us; and it was accordingly arranged that he will be carried by ten men specially told off (daily) for this duty. I must confess I was very anxious to go myself also.

I tried some of Warburg's tincture with him, without any marked effect.

All the men procured four days' rations, as we are to make our first march to-morrow. We packed up our kits into two loads of 60 lbs. each; a third load we left in the fort. The palisade is now completely finished. Mr. Stanley decided to bring Nelson, Stairs, Jephson, and myself, as the advance party to the Albert Nyanza, find Emin Pasha, and then return for the rear column, which will slowly follow us with the reserve stores.

CHAPTER IV.

FROM YAMBUYA TO AVISIBBA.

The Advance Column—Order of marching through the forest—Good-bye to Barttelot and Jameson—Brush with hostile natives—We cut our way through the bush—The forest a conservatory of malaria—Major Barttelot's force at Yambuya camp—Wounds caused by poisoned spikes stuck in the ground—Tedious progress through the forest—Zareeba enclosures for defence of our camps—Game pits and elephant tracks in the forest—The trees and their foliage—Annoying obstacles on the march—Capture of a goat—We launch the *Advance* and follow the course of the river—The natives and sanitation—Deserted villages—Ethnological curiosities of the district—Aruwimi Falls—An army of ants—My personal baggage—Different forms of native hut construction—A forsaken baby—Forest tornado—Nelson and Jephson down with fever—Further casualties through poisoned wooden spikes—Mr. Stanley takes observations—A man shot through the femoral artery—Fording swollen rivers—Hornets' nests suspended from the branches of trees—Scarcity of food—We meet some friendly natives—Continuous rows with our cooks—A hard day's work with the advance guard—Abundance of game in the forest—Strange finds in the villages—Zanzibari method of cooking fowls—Ticks and "jiggers"—Fine features of the natives—Accident to our biscuits—Heavy rains—We buy food from the inhabitants of Mugwye's village—Elephants' tusks used for native seats—First quadruped meat for a a month—Canoe accidents in the Aruwimi—Welcome capture of goats by Mr. Stanley—Panga Falls—Weak state of our men from ulcers—We forage for food—A dead man prepared for burial—African chickens—A Zanzibari shot near our camp—Sharp engagement with the natives at Avisibba—Lieutenant Stairs wounded by a poisoned arrow—My treatment of the wound.

JUNE 28.—*Réveille* sounded at 5 A.M.; and, one hour after, Mr. Stanley marched out of the stockade with the advance guard—at the head of the column, which numbered 389 officers and men.

The Zanzibaris are now divided into four companies:—

		Rifles.	Men.
No. 1.	(which was Stanley's own) commanded by Parke	87	106
„ 2.	Commanded by Stairs	85	88
„ 3.	„ Nelson	85	88
„ 4.	„ Jephson	85	88

The Soudanese and Somalis are attached to No. 1 Company,

and carry no loads. Forty of the best men of No. 1 Company were armed with Winchester repeaters (fifteen-shooters) and bill-hooks; and went ahead of the column—as pioneers—to clear the road. They were selected as sharp-shooters, but their principal work must really be to cut down saplings, branches, vines, &c., &c., and make a road through the woods for the caravan to follow in single file; also to blaze the trees, so that the line of route will be self-evident, both for our men and for the rear-column when it comes to follow. Each man has a bandoleer or pouch to carry ammunition, and each company has to carry a certain number of axes, hoes, shovels, bill-hooks, and eight rounds of ammunition, as well as his load, rifle and kit—about 80 lbs. weight in all. In addition to twelve supernumerary Zanzibaris who did not carry rifles, the rear-guard consisted of thirty men without loads, formed by ten selected from each of Companies 2, 3, and 4; but, as Stairs has to be carried, the ten men from his company must be utilised in conveying him in a hammock until he is strong enough to walk, and the remaining twenty will act as rear-guard. On leaving Yambuya we marched in the following order:—

Mr. Stanley—with advance guard.

Parke—in front of the main column, consisting of Nos. 2, 3, and 4 Companies, carrying loads.

Jephson—in rear of main column.

Nelson—on rear-guard.

We intend maintaining this order of march throughout, if possible; every day keeping a roster of duty, whereby each of us four will take our turn of command in succession, at front or rear of column. It is evident that some considerable time must elapse before Stairs can be strong enough to take his turn of the work; although a certain degree of improvement was manifest on this day's march. Each of us has got his donkey with him.

We bade good-bye to Barttelot and Jameson, both of whom were very gloomy at the idea of being left behind. Barttelot's last words to me were, that he would not remain a day after the rest of the loads and men came up from Bolobo. When we marched away the place looked quite deserted, but the garrison is well protected by the stockade. We kept to the river as we went on; and are to proceed directly east, to the southern extremity of the Albert Nyanza.

After a few hours' march, some of the hostile natives fired upon us with their poisoned arrows, and two of our Zanzibaris were wounded. Our march led through the forest in a thick undergrowth of bush, through which we were obliged to cut our way. A small track did exist, but so narrow and entangled, that it required broadening for the passage of the bearers of the sections of the boat. The archway of branches above had also to be cleared away, in order to allow the men to walk upright as they marched on—carrying their loads on their heads, according to the custom of the Zanzibaris. (Natives in the forest carry their loads on their backs and shoulders, so that they can travel under the archways of entangling creepers which cover the path.)

The forest certainly appears to be a conservatory of malaria, as the ground is thickly covered with the spongy *débris* of decomposing vegetable matter. It is also very moist, as the sun cannot penetrate through the thick foliage so as to promote evaporation; thus it fumes and steams around, and causes one to perspire and swelter very much like the atmosphere of a hot-house, or a Turkish bath. Bad as the atmosphere was, Stairs continued to improve on the march, but my own temperature ran up to 106° F., and I felt above boiling point. I injected a dose of pilocarpin hypodermically, which in a few minutes drenched me in perspiration, after which I felt considerably relieved.

We finished a march of fourteen miles from the entrenched camp. As we proceeded we diverged from the river, which does not run quite in our direction, but strikes deep into the forest.

JUNE 29.—Barttelot's force—in camp—consists of:—

Zanzibaris	78
Nubians	44
Somalis	5
Officers	2
	129

This number is made up of the weaklings of the Expedition (a large proportion of whom are, however, able to carry loads) with a few of the stronger men to look after them; and they possess eighty rifles. They are to be increased in August by the Bolobo detachment, viz., Troup, Ward, and Bonny, with 131 Zanzibaris. This would make a total of 263.

JUNE 30.—We started at daybreak. The advance column had some shooting, during which a native was wounded. We passed some village which had been pillaged by a slave- or ivory-hunting party. We supposed the aggressors to be Tippu-Tib's people, as we found their marks upon the trees, and the road which they had cut for themselves through the forest.

Some of our men were badly wounded in the feet to-day by treading on sharp-pointed pieces of wood or spikes, which had been stuck in the pathway leading to the zareeba or boma (which surrounds each native village), so as to obstruct the advance. These spikes are sometimes smeared over with poison, and are ingeniously made of brittle wood, with a circular or spiral groove near the point; leaving a projecting shoulder, so that it breaks off when it penetrates the flesh, and almost invariably leaves the point within. They are generally placed in the ground near a village, and in a slightly slanting position, with the point towards you as you approach.

We spent the night in a small village which we barricaded, and posted a number of sentries (twenty to forty), who are always on the alert. The natives came howling around our camp at night, but did not attack us. We had marched about four miles; the progress through the forest being, necessarily, very tedious. Every evening when we halt, our first duty is to get the men to cut bushes—those with thorns if procurable—and make a zareeba of considerable size and strength, so as to protect the caravan from night surprises—of either wild men or wild beasts. We then pitch our tents, pile the loads, and the men make their huts—all inside the enclosure.

JULY 1.—We marched through bush and swamp, and passed several villages until we reached a full-grown forest at 2 P.M. We continued our march through it, for another hour. There was a hungry uncertainty as to the number of days we may have to spend in this foodless forest, so Mr. Stanley sent half the men back, with orders to provide a supply of manioc. We zareebed at 3 P.M., having done six miles in the day's march. We have now passed eastward twenty-four geographical miles from the entrenched camp; but have, of course, marched over a much greater distance, as we followed winding paths. How I wish that we could get into open country again, as the smell—from decomposing water in stagnant pools, and rotting vegetable matter—is most abominable.

Stairs is now improving; Jephson is taking his turn, being down with fever to-day.

JULY 2.—The remaining half of the force returned for manioc, according to the order issued by Mr. Stanley yesterday. We have now been pure vegetarians for four days, as we have no meat. Our food is rice-biscuit, manioc, tea and coffee. The manioc we roast in the fire, and then eat like a potato; for we have not time for more elaborate cooking, in the way of soaking and preparing chikwanga (bread), as the natives do on the Congo.

The forest is dotted all over, apparently, with game-pits—somewhat like newly-made European graves—for catching wild animals. A reconnoitring party was sent off, and returned with two women and some children; but very little useful information could be got from them, as none of us could speak their language. At 4 P.M., when our foraging party had returned, we started, and marched along elephant-paths for four miles; we had, however, to cut away saplings and creepers every yard of the way, and blaze the larger trees as they crossed our path.

At the end of four miles we halted, and made a zareeba.

JULY 3.—We marched from daybreak until dark—7.20 P.M.—so as to get out of the forest. The inducement to proceed was pretty strong, as we had nothing to eat. On this day's march I was in rear of the column, and my chief delay was in getting on the sections of the boat, which could be squeezed along the path only with great difficulty, as they caught in the creepers, &c. The forest here was a regular meshwork of elephant-tracks; and, when they happened to lie in our direction, we utilised them as our own. We are now marching in a northerly direction, as we want to strike the river again; so as to utilise our boat and look for food, the natives being more likely to be found settling on its banks than in the dark interior of the forest. We had some rain on this day's march; also we passed some heavy swamps, so that we are well soaked.

Mr. Stanley believes that, as we march eastward, we must find villages; and, consequently, be able to obtain food.

JULY 4.—I slept in wet clothes during the night; it is impossible to dry anything in the forest, as the sun cannot penetrate through the thick foliage. The trees are very large circumferentially, and maintain nearly the same thickness

throughout their whole length till they approach the top; when they give off divergent branches, so as to form a sort of umbrella-like shade. The usual height is from 100 to 200 feet.

It is very difficult to get the donkeys through the swamps, as they sink up to their necks in crossing. Clouds of malarious vapour always hang about the swamps, so that one or two of us white men are down every day with fever. Transport for the sick is very difficult. Riding is impossible, on account of the crossing of creepers from tree to tree, branches of young trees, &c., impeding every step. The transit of rivers is also a most annoying obstacle. The unfortunate sick man has to be carried in a hammock, swung on a pole, and supported on the shoulders of two carriers. In the forest, this vehicle gets caught and torn, every few yards of its progress; and, in crossing deep streams, the invalid gets dipped, if not quite submerged, from time to time, by the slipping (on a stone, &c.) or sinking (into a hole) of one or other of his carriers.

We marched for two miles northward in this way; we then struck the river, and had some further variety in the shape of a skirmish with the natives, a few of whom raised a temporary objection to our presence. They deserted a canoe on the opposite side of the river, which we at once appropriated. It had a goat tied down in it, the acquisition of which was regarded as a great godsend. Our own boat was immediately launched, and secured the prize.

Mr. Stanley reconnoitred in the boat—up and down the river—for some time. We marched along the bank for a few furlongs, and then halted for the night.

JULY 5.—The *Advance* was sent back for some large canoes which were on an island near our camp. We continued our march along the river, as it lay pretty much in our direction, *i.e.*, eastward. The boat was rowed along, and this operation was in itself a means of saving much trouble and delay, as it always takes forty men to carry it in sections, with its oars, fittings, &c.

The natives, even here, have very pronounced ideas on the subject of sanitation. They always make their beds at some height from the ground, and have special pits for collection of ash and refuse; some of them, however, situated undesirably close to the huts. In some villages, indeed, they have rather well-made latrines—even closets—to sit on; and upon the

whole they are much cleaner and tidier than the inhabitants of our remote villages at home.

There were great complaints, as my donkey had eaten up my boy's rations; he was very hungry, poor animal, and there is no grass to be found, except a little here and there close to the river's bank.

Stairs has nearly recovered; he has been improving rapidly during the past few days.

JULY 6.—We did not march till noon. The men are improving in marching; we continued to follow the course of the river, although its direction was now northerly, as we hoped to strike a branch which would have our (easterly) direction. We have as yet met with no such tributary of any considerable size; and we conclude that the country cannot be peopled inland, as they always settle in the neighbourhood of water. Accordingly, we have the great inducement of keeping to the river, that we know we will be sure of finding some food, while there is little or none to be found in the forest.

JULY 7.—Mr. Stanley now travelled in the boat; I was with the advance guard. We passed a village, and then made a long detour inland—so as to avoid rivers and swamps. We cut our way persistently through thick bush, from 11 A.M. till 5 P.M. At 4 P.M., we again touched the Aruwimi, which here takes an easterly direction, that is more in the line of our course. We were frequently obliged to leave the elephant-tracks and native paths, and cut new roads for ourselves. When it was time to stop for the night, we signalled to Mr. Stanley by a rifle shot. It is with great difficulty that we cleared, by cutting, sufficient room to pitch our three tents.

JULY 8.—We started at 6.30 A.M. Nelson was in advance, and I did not leave camp with the rear-guard till 9.30 A.M. The bush is very dense, and difficult to cut through; hence the delay of three hours. This shows how difficult it is to get on, as the baggage was but a few yards ahead. Mr. Stanley took a canoe to-day, and Stairs went in the boat; as he is still weak, and hardly able to use his legs.

We did about five miles to-day, passing through three deserted villages. The natives all abandon their villages as we approach, carrying all their belongings with them. Their

"Intelligence Department" rivals that of the British army during the Nile expedition of 1884–5.

JULY 9.—We started at 6.30 A.M., and accomplished a good day's marching; as there was a path all the way, and, accordingly, there was but little cutting to be done. The river still lies in our direction, and this relieves the column of the incumbrance of the boat and her equipment, while the hands who would have been employed in carrying her are utilised for other work. She also carries many loads and sick, the latter requiring the largest and strongest men in the Expedition as "bearers." Our wretched donkeys have nothing but leaves to eat.

There are few ethnological curiosities in this district. The drums used by the natives to alarm the neighbourhood are formed from hollowed-out portions of trunks of trees, and the canoes are all of the dug-out pattern. Cooking pots are made from the clay of ant heaps, and after the shape of some product of nature—such as a "gourd."

JULY 10.—We started at 6 A.M.: I was in advance, and received orders from Mr. Stanley to keep the pioneers on the alert, as there was a cataract ahead, and we might have to fight. The natives were, however, prudent; and left us to enjoy the neighbourhood in peace. We left the bank of the Aruwimi at 9 A.M., as there was no path; so we had the greatest difficulty in finding our way, and had to steer by a compass.

JULY 11.—We marched to the head of the Falls; then halted and returned for the boat and canoe, which we got over the cataract. As many of the men were footsore, they were allowed to rest there for the remainder of the day.

The ants are very troublesome in this part of the forest. They travel in army corps: with their commissariat, pioneers, intelligence, and other departments thoroughly organised. They frequently pass in a continuous stream for several hours by our tents, sometimes even through them. If not molested, they go along quietly; but once disturbed, and their line broken, they become vicious and revengeful. The majority are small and red, but a certain proportion of large black ones are to be seen among the crowd. We are obliged to strap our knickerbockers very tightly round the leg; petticoats would never do in this country.

I opened out all my baggage after halting, and exposed the various items to the sun; as everything gets wet in the

forest, and drying is slow, on account of the density of the foliage. I was extremely glad of the day's rest, as we all have to do our marching on foot, our donkeys being too weak to accommodate us. My personal baggage now consists of a few pairs of trousers and socks (only), with pyjamas, and a pair of boots.

The village here has huts of two different kinds; one is of *conical* pattern, raised on a high mound of earth, and covered with leaves; the second is *quadrangular* in outline, with very definite measurements, usually about twenty feet long, and thirteen feet wide; with a ridge pole six feet two inches from the floor. They are built with saplings covered in with large leaves of the amomum, and are arranged in rows, so as to form a street of very fair width.

We came across two women yesterday, who promised to show us the road. One of them ran away last night, leaving her baby (aged about four years) with us in camp. The unhappy child had, of course, to be left behind, as we had no milk to give it. I saw it last, as we marched out of camp, lying on a mat near the fire chewing some plantains. Poor little thing! I hope its mother returned for it; indeed, I think it extremely likely that she did, as our movements were always so well known to the natives about.

JULY 12.—We made a good march, and stopped for a meal of rice at 10.30 A.M. Mr. Stanley and Stairs came up, in the canoe and boat respectively, and soon after we halted for the day.

JULY 13.—I led the advance party, and left the Aruwimi at 9 A.M. We steered by a compass. Halted at 10.30 A.M. for cold rice and coffee, and met the river again at 4 P.M. We halted in a village near this point; but presently we heard a shot higher up, which was a signal for us to go on to where Mr. Stanley was, about one hour's march ahead. About half-way a regular tornado came on, and the rain literally poured down, drenching everything. Fortunately I was able to get a dry suit of pyjamas from Stairs.

JULY 14.—Nelson and Jephson did not reach our camp till morning. They had to sleep in the bush, with some of the Zanzibaris; as it became too dark to grope their way through the forest. Their only clothing is a wretched suit each, and they were both ill with fever when they came in, which

increased during the day. Three-fourths of the column had remained out during the night, but all were in by noon.

We spent the rest of the day in a village. We could not, however, succeed in drying our things; and, as everything was drenched, the loads were extra heavy. The marching through the forest after rain is the reverse of comfortable, as the trees keep dripping heavily for hours.

Several of our men were badly wounded yesterday by wooden spikes (*makonga*). They had been placed in the path by the natives, and pierced the feet of the carriers. Many of them must be by this means totally disabled for months. Some of the spikes are made longer and stronger, for the purpose of penetrating the abdomen; these were generally placed at the end of a log, so that when our men jumped down the spike penetrated with the whole momentum of the body. These spikes were generally pretty well concealed by leaves; so that all onward movement was excessively dangerous where they were placed, and required the most extreme caution.

Without a compass we should certainly have got lost for ever in this forest, as it is with difficulty that the sun can be seen at all. Mr. Stanley generally goes out on the river (or hews down some trees, or waits for a clearance) to take an observation with the sextant and theodolite. He takes observations every day, usually about noon, so as to localise our position.

JULY 15.—This was Stairs's first day's marching since his illness. We passed through a succession of villages, with strong palisades and bastions in some places. I found nine eggs, but all were bad—our experience goes to show that African hens never do lay fresh eggs—also a native girl, who had been burnt from head to foot on one side, and could not run away in consequence.

One of the Nubian soldiers got punished, and was sentenced to thirty days' carrier duty, for forgetting his rifle in camp. Stairs brought it on afterwards.

It is very difficult to find out what the names of the places are here. Mr. Stanley learns a little from the natives; who are captured for that purpose, and then released.

JULY 16.—Mr. Stanley sent a Zanzibari running back for me—at 11 A.M., to hurry up and see a man who had been wounded through the femoral artery. He had died, before I

reached him, from the excessive hæmorrhage. I was greatly disappointed, as it was a nice case for ligature, and his life could easily have been saved. I remember a precisely similar occurrence near Alexandria in 1882, when Lieut. Howard Vise, of the Mounted Infantry, lost his life through ignorance of the most elementary facts of anatomy on the part of his comrades.

Jephson was very feverish; and was, consequently, sent on in the boat. All the rivers are so swollen that we are sometimes up to our necks in wading through; and we often meet as many as a dozen of them in a day's march. Our donkeys are constantly sinking or swimming; and they almost invariably have high fever after a swim across a good-sized river, just like their Christian and Pagan fellow-travellers.

JULY 17.—Rain fell heavily during the night, and drenched everything. We started early, and marched about eight miles.

JULY 18.—We started at noon, and went on through the forest till we struck the Aruwimi, at 2 P.M. Fired a few shots as a signal to Mr. Stanley, but he was too far ahead and did not hear them. We halted at 5 P.M. We had no tents; but, fortunately, there was no rain. Everything about us was, however, soaked from that which had recently fallen.

We experienced a new treat to-day in passing some hornets' nests; which are built of clay, and suspended from the branches of trees. If passed without noise these brutes take no notice, but they become atrociously vicious when their auditory organs are over-stimulated, as they were by the passage of our column. They are long and black, and just touch the skin in their flight, leaving a fearfully painful sting in the part, which becomes severely inflamed soon afterwards.

We are all sick of rice by this time; we would like some meat for a change, as we have not had a scrap since we captured the goat in the canoe on the 4th inst., and which lasted but a very short time indeed.

JULY 19.—We all had a very uncomfortable night, as our blankets, &c., were thoroughly soaked. Under the circumstances I managed to develop a colic, which more than kept me awake. We breakfasted on biscuits, rice, and coffee, and left camp at 6 A.M. By 10 A.M. we reached Mr. Stanley's camping-ground of the previous night, but we continued our

march for (two and a half miles further) to a village. We then halted so as to give the men a chance of prowling around for food, as they have had very little for three or four days. We then managed to dry our clothes, which had been all but mildewed.

JULY 20.—Two of our Zanzibaris: Charlie No. 1, and Musa Bin Juma, had not returned with the foraging party. They must have lost their way while searching for food, and we believe that they have fallen into the hands of the natives. Their rifles are also lost, as every man carried his rifle. We held a general inspection of companies, and marched for a short distance to a village. Here, to our glad surprise, the natives approached us in a friendly manner in canoes, and sold us twelve chickens, which were very acceptable indeed.

The natives here speak a very peculiar language; every word is accented on the last syllable.

The river here changes its direction, and runs north again.

JULY 21.—We made a short march and halted in a village. All the villages we pass through have just been deserted; we always find the live embers on the hearth. For the last few days' march, the river presents a series of rapids.

The natives here have extremely good features; the nose is flattened only in a very few instances. The skin is not black, but of a moderately brownish tint.

Nelson was very seedy to-day. I am having almost continuous rows with the cooks for not boiling the drinking-water, according to directions, and not frying the manioc sufficiently. They are four in number, and give plenty of trouble in proportion. We have all come to the conclusion that it is much the best plan to have our meals separately, as it is impossible that we can all sit down together, and the man who comes last invariably complains that there is nothing left! If any one takes a second helping he is shadowed as a gourmand, so jealous are we of our scanty fare; but the most serious objection was taking "a little more meat, if you please," and quietly passing the plate on to our hungry boy to supplement his share, so that he might keep strong and look well after us, while others at the table had not half enough to eat. So often was each of us caught *in flagrante delicto* that this premeditated crime became a treasonable offence.

JULY 22.—I was with the advance guard on this day's march.

We went well towards the East, so as to avoid rivers and swamps; and had to cut the last 2½ miles through an almost solid growth of bush. After marching all day as well as we could get on under the circumstances, we found, on stopping for the night, that we had advanced but four miles in the right direction. We passed many villages and manioc fields, and stayed for the night in a village consisting of three huts. I saw a chicken in one of the villages as we passed, and attempted to secure it with the aid of my Winchester rifle, but was disappointed. It is impossible to catch these fowls alive, as they run like pheasants. So they always escaped from us into the bush.

The natives were not in arms against us, so we managed to talk to a woman and child; but as they could not tell us anything about the country, we let them go their ways. In some places, the natives had cut down large trees, so as to obstruct our path by letting them fall across it. Boycotting tactics!

Three of our men who had been missing have now returned. Charlie No. 1 is still absent.

JULY 23.—There are several villages on the opposite bank of the Aruwimi; there are also plenty of bananas there, but none on this side. There appears, however, to be plenty of game: judging from the footprints, I should say that there are thousands of elephants in our vicinity; but it is absolutely impossible to shoot anything as the forest is so dense. The river is quite 400 yards wide here, and there are no cataracts.

Mr. Stanley found the broken-off pointed end of a sword-bayonet in a canoe; this fragment must have an interesting history if it could be discovered. It must have had a weary pilgrimage in finding its way to these parts, previously untrodden by the white man. It may have come from the Nile, or the Congo, or—more likely than either—from Zanzibar, with the Arab slave-trader or ivory-hunter.

I found a thing like a tun-dish, and ascertained upon inquiry that it was a specimen of the instrument used by the natives in giving enemas. On examining it closely, I found that it was constructed of a half cocoa-nut shell; with a hole drilled in the middle, for the insertion of a piece of hollow cane.

I shot a large water-fowl, and Mr. Stanley got two chickens for our dinner; so we had three birds in all. The Zanzibaris sometimes boil their fowls; but, as a rule, they prepare the

chicken by removing the entrails, plucking off the feathers, and opening up the body, by cutting down along either back or breast; then fixing it on a sharp-pointed stick, which is fastened in the ground and inclined over a fire. The fowl is then left there till it has become quite dried up—for a couple of hours at least.

JULY 24.—Jephson with the advance party: we marched ten miles (eight geographical) by the river, perhaps twenty by land, owing to the various curves and angles of our path.

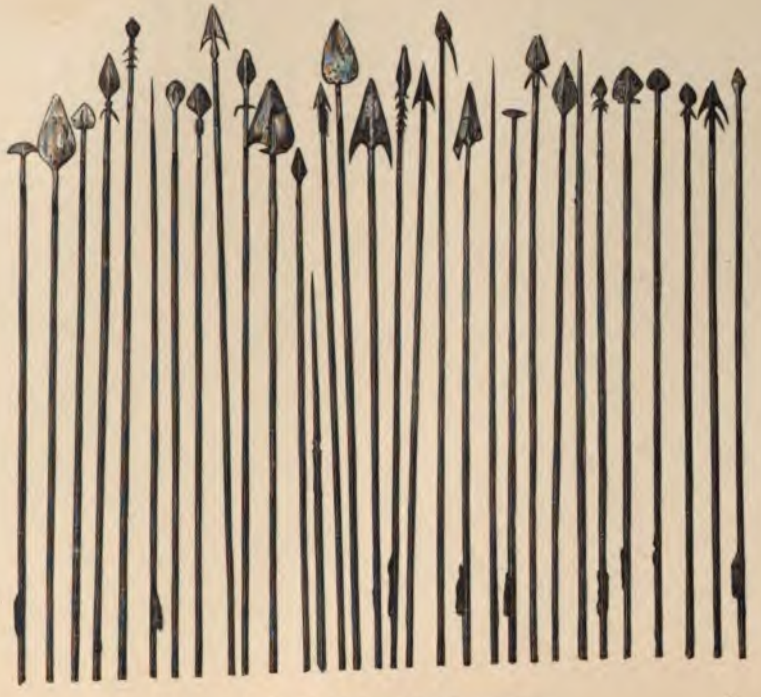
The men are greatly troubled with ticks—about the size and shape of a sheep-tick. This pest fixes itself to the lining membrane of the nose, and requires forcible removal with a forceps, when it sometimes carries the mucous membrane with it, and is invariably gorged with blood. The "jiggers" are becoming less numerous; their presence is recognised by a black tender spot, from which the Zanzibaris know how to remove the parasite with a pin or knife.

We passed no villages to-day.

JULY 25.—The natives are not so timid here as they were down river; a few come up close and sell chickens, but the supply is so scanty that we can only aspire to a leg, wing, slice of back, &c., each. The natives are really very fine-looking. Our chief's cockney servant says that the girls are the "'ansomest as I has ever seen." The pleasing impression which might have been conveyed by their fine features is, however, pretty well neutralised by the fact that they all have a look suggestive of wishing to catch you and toast you immediately.

After a difficult march we reached a village. As usual, posts were stuck up around it with skulls on top; one of these was distinctly "recent," as there was still some flesh on it, and its appearance at once developed the idea that its unhappy owner had been an item on the menu at a cannibal banquet lately held by the inhabitants. Corn-cobs, horns, and "charms," of various kinds, were also hung up.

JULY 26.—We accounted ourselves lucky to-day, as we had reached a fairly comfortable village camping place last night; and it was well, for the rains descended and the floods came during the night, as if they threatened to wash us off the face of the earth. It still continues. I shot a hornbill for dinner last evening, but it ate like parchment. We remained all day



ARROWS USED BY THE PIGMIES.

in camp. Forty men from each company were sent out to pick manioc, as we were short of provisions. I shot four doves for dinner to-day; we consider these a "big feed" for six of us.

There are rapids just ahead of us on the river; accordingly, all the loads have been removed from the canoes, and carried to the head of the rapids. My medicine boxes are thoroughly soaked, both outside and in.

JULY 27.—We started early on our march, and halted at 3.30 P.M. I shot a hornbill. We were obliged to strip naked and wade across some rivers on our way. Heavy rain fell; everything we have with us is thoroughly saturated, and we are obliged to sleep in wet clothes. My donkey's leg was very nearly broken, through the negligence of my second servant; the leg was caught in a bough, and the poor brute held on by this one leg for about five minutes, so that he was quite lame afterwards.

A dreadful calamity befell our biscuits, as the box was allowed to fall into the river, and now we shall have but sour biscuits and rice to eat, besides a chance fowl.

There is nothing in these parts but forest and thick undergrowth covering the whole face of the earth; it is as dark and gloomy as at Hyde Park Corner on an ordinary foggy day.

JULY 28.—I shot a laurie bird, which did well for our dinner. I was on rear-guard, and arrested a native—which is not an easy task, as they have nothing on to hold by—from whom we gathered that there is an affluent, running from the South into the Aruwimi, about two days ahead of us. The natives do a good deal of trading with canoes on the river.

The Zanzibaris have had no food for two days.

JULY 29.—We marched at about 6.30 A.M.; I was with the advance party. We cut a path through some loose bush; and, after marching five miles, we came up with Mr. Stanley. We camped early (at 2 P.M.).

We have met with no villages on our bank (south) for the past two days. There was a large village opposite our camp this afternoon, and some of the natives were induced to come across with corn, fowls, &c., for sale. Each man had one matako and three cowries given him, to purchase food for two days. Rain fell heavily during the later part of the afternoon.

JULY 30.—The rain poured unceasingly all night long.

Everything is in a dreadful mess, and the ground is like putty from the effects of soaking with the enormous quantity of rain that has recently fallen. The natives came over about 7 A.M. and sold corn to our men; but the latter always spoil the market by giving such large prices for food. In the afternoon prices went up 500 per cent. so that food could not be purchased.

JULY 31.—This is Mugwye's village.

Each officer had orders to muster his company at 6 A.M. My company (No. 1) was then ordered across the river first; Jephson's next; Nelson's followed in turn. When on the other side, we collected plenty of manioc, bananas, and Indian corn. We found twelve elephants' tusks (about the value of £400) lying uncared for about the village. They are used by the natives as seats; they do not know the great commercial value of ivory, for no traders have ever penetrated so far into the forest. I found a ring, and crescent-shaped ornament made from copper; this is the first specimen of the metal with which we have met. (Vide sketch: Curios.)

AUG. 1.—The natives were furiously incensed against us for having caught one of them: they gathered in numbers, and shot poisoned arrows at us. We told them, through an interpreter, that we only wanted food, that our men were dying of hunger, and, that if they brought in three goats and some manioc, we would pay them and also release their man. They would not, however, be parleyed with.

We marched early and stopped at 2 P.M. The Nubians' canoe turned over to-day; no one was drowned, but two rifles were lost. The natives told us that there is a great lake situated two days' march before us.

AUG. 2.—One of Jephson's men, Khamis, died of acute dysentery, and was buried in camp. I led the advance guard, and caught up our chief at luncheon. We continued our march till 6.30 P.M., and remained in the bush all night. Mr. Stanley had gone on far ahead; we signalled for him, but he did not reply till 10.30 P.M.—when all was quiet, and we could hear the report of the rifle. We had no tents; very fortunately there was no rain.

AUG. 3.—We caught up Mr. Stanley's camp after the first hour's march in the morning. We did not halt till 4 P.M., when we heard the welcome news that there had been two

goats captured. This is the first (quadruped's) meat we have seen for a month (by to-morrow).

Stairs is feverish again.

Two of Jephson's men strayed away from camp yesterday, and returned to-day; they received punishment (with the stick). An order was now issued by Mr. Stanley that all the chiefs (Muniaparas) should report every evening, to their corresponding officers, the number of men and rifles missing.

AUG. 4.—A day of mishaps! Soon after our column and flotilla had started, two of Stairs's canoes turned over in twelve feet of very rapidly running water. Fourteen rifles, fifteen boxes of ammunition, five boxes of cowries, three loads of beads—all went to the bottom. Of these, however, eleven boxes and five rifles were recovered by divers. Hassan, a Somali boy, worked marvellously well under water, and took up most of the things. He was secured all the time by a vine tied round his waist, to save him from being swept down river by the very strong current.

We stopped work at 5 P.M., when we had something to eat; then started for camp, which we reached at midnight. We had to feel for the blazes on the trees all the way in the dark. Thus ended seventeen hours' work for one day.

AUG. 5.—Mr. Stanley captured ten goats yesterday, at a place called Panga. Two of these were issued to each of our four companies. Some curious knives were found; they were of different shapes and very indifferent material.

Stairs cut a ten-foot road through the forest for a distance of one and a-half miles, so as to have the boat and canoes conveyed to a point on the river above a cataract which obstructed our flotilla. Nelson took a party into the forest to forage, but returned without any food. Jephson was sent back to the scene of yesterday's catastrophe; he succeeded in recovering two boxes and one rifle. I was occupied getting the canoes hauled round; they were half-way by the evening. Mr. Stanley tells us that, according to his observations, we have done but one-third the distance to the Albert Nyanza; this is very slow, although we appear to be going and working from morning till night, and the entire distance from Yambuya to the lake is not quite 600 miles.

The men got a little Indian corn; they have, since the 28th ult., had no food but green leaves, roots, and forest fru

Jephson saw a hippo and a crocodile. This is the first crocodile that has been sighted for 800 or 900 miles.

Aug. 6.—We got our boat and canoes safely across. Some of the latter had various necessary repairs performed upon them. Jephson, Nelson, and myself went off on foraging expeditions, but we got nothing. Our men are greatly reduced in condition, and are growing very weak for want of food. If this way of living continues much longer, we shall have to throw away some of the loads.

Mr. Stanley went up river in the boat and saw two villages.

Aug. 7.—Stairs was in advance to-day, with but five scouts, to clear the way for our advance. The remaining thirty-five have been deputed to carry loads—on account of the great number of sick we have at present.

Jephson's canoes were overset; all the men were saved after a struggle, but eleven rifles and all the kits went to the bottom! Fortunately there were no loads in the canoes. Mr. Stanley was hailed, and quickly returned to the scene of disaster. Nine rifles and one kettle were recovered—most of them by Feruzi Ali, one of my former chiefs. A splendid fellow.

As there was another rapid ahead, the column marched on for three or four miles, and then halted to clear a road through the bush to haul over the boat and canoes.

Aug. 8.—All hands busy this morning. Stairs was engaged in cutting the road; Jephson in getting the boat over; Nelson and myself hauling at the canoes. As soon as the boat was launched, Mr. Stanley rowed up the river in it to reconnoitre: he returned late in the evening with twelve goats—a welcome prize to all of us. Our men are getting extremely weak, as they have had no manioc since the 28th inst. In this debilitated condition they suffer greatly from ticks in the nose, and from gastro-intestinal catarrh; but by far the most formidable malady is the rapidly spreading *ulcer* which forms at the seat of the very slightest abrasion of the skin. Many are suffering from palpitation and anæmia.

Aug. 9.—Mr. Stanley went on ahead of us, and captured eight other goats, which were distributed among the men as rations. The conical huts of the native villages are now replaced by rectangular ones.

The men are now beginning to steal food from us, and from

their comrades, and *crime is on the increase, simply from hunger.*

One goat is made to supply six of us for two days. I am now mess-caterer, and have to hear a great deal of grumbling, as I have reduced the rice-ration to half; we have, even at this rate of distribution, only enough left for six days. I hope and pray we may come to a corn-country soon.

Aug. 10.—All hands able to work turned out of camp to-day, to forage for food. I remained behind to look after the sick, drying medicines, lint, &c., and to look round the camp generally. Two natives told us that there was a fight here yesterday; when the villagers returned from their warfare, they found us in possession of their village. They say that there is no food nearer than two days. Nelson crossed the river, and brought back some bananas; the native men on his arrival forsook the women and fled, and the women, in turn, dropped the children and took to their heels, but shortly afterwards returned as they saw we meant no mischief to them.

Jephson brought in some bananas. One of his men was stabbed in the front of the neck with a spear; it passed through his windpipe and gullet. This village is one of Mugwye's.

Aug. 11.—I went with the advance party, accompanied by a native woman as guide; she had promised to lead us where we should find large quantities of provisions, goats, &c., &c. We marched twelve long miles to-day, but saw no food whatever, although we passed three villages; they were all quite deserted and empty. We got to camp at 3.30 P.M., but Nelson did not arrive with the rear-guard till 6.15 P.M. He is now down with fever. I volunteered to go foraging with the men this afternoon, but they were too fatigued to make any further exertion. Hassani, a man who is dying from acute dysentery, was left behind in a hut, as we have no transport to carry him.

Aug. 12.—One of our Soudanese was lost in the bush yesterday: such an accident may occur to any person here, for if one walks 100 yards away from camp into the bush, and turns round two or three times, he does not know where he is, or in what direction to move. At daybreak, Stairs and myself started with ninety men each, and returned at 4 P.M.—with enough bananas for one meal. We found three villages which

had only just been deserted a few hours before, as the fires were still lighting. I found a dead man in a hut prepared for burial; he was resting in an inclined position, his shoulders raised and knees drawn up and tied with a rope, which was fixed by the other end to the roof of the hut, so that the legs were flexed on the thighs, and the thighs upon the trunk.

I shot three chickens, with one charge from my hammerless breechloader. It is impossible to catch any of them alive, as they run so fast and disappear hopelessly in the bush; they are never tame, like our domesticated ones at home. I made a good square meal off one before returning to camp; it is the first I have had for a long time.

On returning to our quarters, I found a Zanzibari lying dead on the path in a pool of blood—within 200 yards of the camp. He had a bullet wound through the head; which, penetrating at the inner canthus of the left eye, had come out in front of the right ear. It was not a case of suicide, as there was no rifle near, and the entrance wound was not scorched or stained with powder. The body was brought into camp by Mr. Stanley's orders, and an investigation held, but we learned nothing further.

We reproached the old woman who had promised us yesterday to lead us to supplies of food, and led us twelve miles to nothing, but we were obliged to give her up as hopeless, she was either too dense or too cunning.

Aug. 13.—We left camp at 6 A.M.; Jephson leading. Nelson was with the middle section of the column, and I was with the rear-guard. Jephson has a large ulcer on his leg. We marched along a fairly good track till about noon, when we reached a river of about 50 yards in width. It was also of considerable depth; so we conveyed all the men and loads to the opposite bank in our boat and a canoe. We were obliged, of course, to make very many trips. My rear-guard consisted of twelve men; of whom four carried loads, and one led a goat. Nelson and myself were the last to cross.

We camped in a village on the opposite bank, named Avisibba. About an hour after the crossing, the natives assembled in very considerable force; and made a determined attack upon us. They shot arrows—poisoned and non-poisoned. We immediately fell in our companies, and took up a defensive position; keeping up a heavy independent fire for a con-

siderable time, when they drew off. They were on the other bank, and they sheltered themselves behind the trees, popping out from time to time to let fly their arrows, and disappearing again; so that it was impossible to get a steady aim at any of them, and it reminded me rather forcibly of ferreting rabbits. They made a fearful row; shouting and yelling, in demoniacal fashion, among the trees behind. Nelson and myself were standing on a little promontory, and doing some shooting, when I presently saw Mr. Stanley coming down with his gun-bearers. So I went to tell him what was going on; when Jephson met me, and told me that Stairs had been wounded, while getting into the boat to attack and drive away the sharp-shooters on the other side of the river. I immediately returned, took him out of danger of the missiles, and examined him. He was very much blanched; there was very little hæmorrhage, but he was suffering greatly from shock and pain. I found a punctured wound on the left side of the front of his chest, just below the nipple: close to the apex of the heart. Just as he was hit, he had struck the arrow aside with his arm; this had the effect of breaking it off in the wound, leaving a couple of inches within the chest, and well concealed behind the rib; where it was covered by the overlapping intercostal muscles, which had closed over it. Accordingly I could not reach the broken fragment with the probe, and I considered cutting down, and hunting about for it, as—under the circumstances—unjustifiable surgery. As the arrow was a poisoned one, I regarded suction of the wound as offering the best and only chance of his life; for the point had penetrated much deeper than a caustic, applied externally to the wound, could possibly reach. Acting on the idea, I at once sucked the edges of the wound; till I felt sure that I had extracted the greater part, if not the whole, of the adherent poison. I then dry-cupped—by forming a partial vacuum; washed out my mouth with a weak solution of carbolic acid, and injected the wound with the same, touching the edges finally with lunar caustic. I applied carbolised dressings to the wound, and bandaged the whole securely. He was now very faint; and, of course, very anxious; so I gave him half a grain of morphia by hypodermic injection. In the evening he had a severe attack of intermittent fever, the exciting

cause of which was, certainly, the wound he had received. Many of our men were also badly wounded, and were sucked by their comrades, whose mouths were carefully washed out with a disinfectant as a precaution against absorption of the poison.

When the fight was over, we posted numerous sentries, and fortified our position for the night. There are plenty of bananas in the village now, so that we have some reason to be thankful for the place. During the fight, Nelson was sent round with his company to enfilade the enemy; but he could not succeed in recrossing the river, owing to its size.

CHAPTER V.

FROM AVISIBBA TO UGARROWWA'S CAMP.

Lieut. Stairs' condition—Further heavy rains—Gigantic game-pits—Guided by a native we are led out of our way—Lost in the forest—Saat Tato to the rescue—Effect of the cold and wet weather on our Zanzibaris—We are attacked by natives—Results of foraging against orders—Some cases of tetanus among the men—Fire in a neighbouring village; anxiety regarding our baggage—A perfect ant-bed—I arrive at Stanley's camp—Medical inspection of the men—Meeting with the river column at the junction of the Nepoko and Aruwimi—Our camp at the Falls—Amputation of Juma's foot—Depressing effect on the men of perpetual forest marching—Our donkeys—The last box of biscuits missing—Carrying the steelboat *Advance* around the cataract—My surgical dressings box—An Arab salute—We fall in with Ugarrowwa and his ivory hunters—Shocking scene in a village—Mr. Stanley developes symptoms of dysentery—Dangers of camping near malarious marsh or swamp—Numerous desertions of the men, taking with them their rifles and ammunition—Scarcity of food—Progress of our river flotilla—Tremendous downpour of rain—Another Arab encampment—State visit paid by Mr. Stanley to the Chief—Contrast between our men and the burly Arabs.

AUG. 14.—Stairs's temperature was 100° F. this morning; evening temperature rose to 101·2°. There has been very little external hæmorrhage from his wound. Respiration is extremely difficult, and the dyspnœa when lying down is very great. He also complains a good deal of pain in the left *shoulder*. Both these symptoms point to injury of the diaphragm, and I do not at all like either.

The natives allowed us to sleep peacefully last night, and we have the additional gratification of having obtained a good stock of food—including a number of goats; one of our men captured eight or ten of the latter while the fight was going on yesterday—a wise man, and a public benefactor!

Nelson mustered a party of his men, and marched up the river which separated us from the natives; who still lurked about, and tried—unsuccessfully—to cross the river so as to get in rear of them.

AUG. 15.—Early preparations were made for the march. I

had Stairs placed on an inclined chair (lent by Mr. Stanley), in a comfortable position in a large canoe. He breathes much more easily when raised from the horizontal position. I wished him to be carried down to the riverside, but he persisted—to my great anxiety—in walking the short distance (twenty or thirty yards); for he has the greatest horror of being looked on or treated as an invalid, except when actually prostrate. His temperature was now normal. I am in hopes that even if I do not succeed in discovering the broken-off arrow-point, it will be discharged spontaneously from the wound; for I consider it very imprudent to use the probe much or often, as its careless or heroic use would, almost to a certainty, be productive of more harm than good.

When the flotilla had started, the land column commenced to move; Jephson leading, Nelson in the centre, myself in rear. We marched (away from the river) till dark. It rained heavily during a great part of the day, and our clothes were thoroughly soaked. Nelson and myself slept together in the forest on his waterproof sheet, and opposite a roaring fire, which we had kindled under a tree. We had made a long and fatiguing march, so that the saturated condition of our garments did not prevent us from sleeping soundly.

Jephson (with the advance party) managed to reach a village just at sunset. Nelson and myself remarked that we were not going in the right direction, and I am very anxious about Stairs, as we have got his blankets and clothes, although I had told him that, for fear of accidents, which might occur at any time to the best-regulated party in the heart of Africa, he ought to have these things placed in the canoe with himself.

We marched in a south-easterly direction all day; the line of the river was north-east, so that we have now got to a considerable distance from it. About midnight, Jephson, out of thorough good nature, returned a couple of miles to our resting-place by torchlight—to give us warning of the presence of game-pits ahead, into which ourselves or our men might unwarily fall, if we had not been made aware of their existence. We fully appreciated this kindness; but, as he had brought us back no food, we did not invite him to share our waterproof, and he returned to his own men in camp. The pits referred to were formed like gigantic graves; they were about fourteen feet deep, and intended for the reception

of elephants and other large game. So we decided not to let any of our men, with their boxes, &c., move forward during the night.

Jephson agreed with us that he had gone out of his way, but the error was due to the directions of a native woman who acted as guide, and the advice of Mbaruku, a Zanzibari, who generally went ahead of the scouts, as he was supposed to be a good pilot in the forest.

AUG. 16.—We started very early, and soon reached the village where Jephson had camped. We then had some roasted bananas, and held council as to what direction we should take next. This question was, however, soon decided; as Jephson told us that shots had been fired during the night, which he had answered, and they were repeated in reply. Accordingly he started (in advance), in the direction of the shots, and we did a long day's march, stopping at 5.30 P.M. in a village, where we tried to make ourselves comfortable for the night. A great part of the march was spent in diplomatising with the banks of a river which we thought we might be able to avoid crossing; this, however, we found impossible, so we performed the transit successfully just before halting.

We have now consumed our last grain of rice, and must in future be content to live on plantains, and, perhaps, an occasional goat—if lucky chance will throw the latter in our way.

We are extremely anxious to-night, as we have been separated from Mr. Stanley and the rest of the force for so long a time; and Stairs has been without any treatment.

AUG. 17.—Things now look very serious; we are simply lost in the forest, with the great bulk of the Expedition, and *there is no food whatever*. Mr. Stanley is, of course, anxiously waiting, and wondering what has become of us; Stairs, and about thirty of the men, now invalided—many of whom were wounded in the engagements of the 13th and 14th—are without medical assistance. After we had marched till 2 P.M., through miles of wilderness, I thought that something must be done to improve our position, so Nelson and I wrote a note to Jephson, suggesting that we should return by the same way we had come. He then halted the column, consulted with Nelson and myself, and we had decided to return, when—just as we were about to move off—we heard some shots, to which

we at once responded, and presently we were gratified by seeing Saat Tato, Mr. Stanley's chief hunter, and six other Zanzibaris —coming to us through the bush. They told us that they had left their leader early in the morning, and caught us up by taking a short cut. We now gladly went with Saat Tato, but did not accomplish any great distance, as we had very soon to make the transit of a deep river; on the opposite bank of which we camped for the night.

Saat Tato told us that he had a brush with the natives on his way to relieve us; they had attacked him and his party.

AUG. 18.—We marched from daybreak till 5 P.M.; then halted for the night in a village. During the latter part of our march, rain fell in torrents. We were obliged to carry six of the sick and feeble men; one of them died in his hammock as we were marching, having succumbed from exposure to the cold and rain.

The Zanzibaris suffer much from the cold and wet weather as we proceed. When drenched they look miserable, shiver all over, turn a greenish yellow colour, and display a general development of *cutis anserina* all over the surface of the body. Their limbs stiffen, and actually become unfit for use; then they cough, become feverish, &c., and develop all sorts of chest complaints.

At 11 A.M. we halted, as usual, to eat some plantains by way of luncheon (*terekeso*). During the meal we were surprised by the wily and watchful natives, who poured in a volley of poisoned arrows on us from two opposite sides. One of our men was badly hit in the back. As we had allowed the column to go on before us, and the breakfast party consisted only of Nelson and myself, with a few men to guard us, we were obliged to remain under cover in the village, and fire at them as best we could; to charge them, and so expose ourselves, was to make certain of being hit, and we had not enough hands to carry even one more wounded man. It would also place us at a further disadvantage, by showing the smallness of our numbers, and so increasing the courage of our assailants. After a few shots, however, the natives fell back into the bush, and we took the opportunity of flying as fast as we could after our column. We soon overtook Jephson, who had halted in a village with the men.

Shortly after we got into camp some of the men disobeyed

orders by going out foraging in small parties of twos and threes; the result was that one man was shot in the liver by an arrow, and died almost immediately from hæmorrhage. The head had penetrated to the depth of six inches. Up to the moment of his death the wretched victim denied that he had gone foraging, and persisted in saying that he had been hit by a native who was concealed in the hut, and shot at him just as he entered, the assassin then making his escape. But we are so accustomed to these tragic excuses for disobedience and imprudence from the Zanzibaris, that we have ceased to give much credit to them—even when offered by the dying.

Maruf, of No. 1 company, who was wounded on the 13th, died to-day, in great agony, from tetanus. I also noticed to-day symptoms of developing tetanus in another man, who was wounded in the same attack—on the 13th.

On our arrival at the camp, Jephson had tea and goat soup ready for the sick. I gave small but repeated enemas of a strong infusion of tobacco to the case of incipient tetanus.

Aug. 19.—At 3 A.M., we were all alarmed by fire in a neighbouring village, where some of the Zanzibaris had slept. It was but fifty yards off, and the village in which we officers had put up was too small for the entire force. Fortunately, we had all the baggage and ammunition stored with us in our own village. Nelson very quickly went over, in the dark, and after some hours had the fire put out. Jephson and myself kept watch, as we were very anxious; if fire broke out in our quarters, *the whole Expedition was absolutely ruined*, as all the ammunition and baggage were with us; and the village street was so narrow that there could not be time to remove them, as the dry wood and leaves of which the huts were composed would have blazed up almost instantaneously.

We left at 7 A.M., carrying away two wounded men; of whom one subsequently died of tetanus. He is the same in whom I noticed the premonitory symptoms yesterday. We reached the Aruwimi at 3 P.M., without any further accident. We camped for the night in the bush, close to the river. Mr. Stanley was not in sight; he had encamped at some distance higher on the river.

Aug. 20.—We marched early, and moved onwards, till 2.30 P.M., keeping close to the river-bank all the time. Here we were stopped by a large tributary, evidently the same one

we had crossed on the 17th, when further inland; and here we found the couriers whom we had dispatched to Mr. Stanley on the evening of the 17th, with a note explaining our position, so as to make his mind easy about us. The stupid men had simply stopped at the river, and remained there waiting for us, having never made any effort to get across.

Presently a Zanzibari from the boat arrived, and told us to return a few hundred yards—to the junction of this river with the Aruwimi, where a canoe was waiting, by Mr. Stanley's orders, ready to portage the Expedition across. Darkness, however, soon came on, so that but a few of the men and boxes could be got over. Jephson, with some men, went on in the boat to Mr. Stanley, who was about a mile ahead of us.

The place where we lay was a perfect ant-bed. It was impossible to sleep, as myriads of these vicious little demons kept continuously swarming out of the ground, running all over one, and leaving the whole surface of the body as painful as if it had been covered with a cantharides jacket.

AUG. 21.—Jephson returned early this morning with orders from Mr. Stanley that he and Nelson were to go for plantains, and I was to go on to Mr. Stanley's camp. When I went there, I found a great deal of sickness. One man, Msa, had died of dysentery, two of tetanus (as I could ascertain from the description of their symptoms given by Mr. Stanley), and twenty-eight others still lie helplessly prostrate in the camp. Stairs looked wonderfully well, considering his history; his temperature was normal, there was a purulent discharge from the wound, but no sign of the arrow-point has yet appeared.

Mr. Stanley seemed depressed, but was not at all so irritated by our long delay as I had anticipated that he would have been.

During our absence Stairs had slept in an apartment of Mr. Stanley's tent, and had a very miserable time of it.

AUG. 22.—We were aroused early, the tents were soon struck, and we marched at 7 A.M. We left Jephson behind, with some men to guard a portion of the ammunition; the whole could not be carried with us now, on account of the great number of sick; so the men made a return journey in the evening to bring it up.

We are having a hard time of it. There is now no meat to eat—only unripe plantains to live on, and the work is dreadfully

fatiguing, as we are marching through bush from morning till night. The hornets and ants are at present even more dreaded pests than the natives with their poisoned arrows, so that we have a considerable proportion of the ills of life around us. Almost all the men who were wounded at the action of Avisibba have died of tetanus, except Stairs.

AUG. 23.—We started early, and met the canoes after a march of half-a-mile. We put some of our boxes on board, and continued our March till 4 P.M. I have eaten five small unripe plantains to-day, and feel very empty still.

I held a medical inspection of all the men. The sick are distributed as follows: No. 1 company, 6 sick; No. 2, 14; No. 3, 16; No. 4, 21.

AUG. 24.—Rain fell very heavily during the early part of the day, and effectually prevented us from starting till 1.30 P.M. Jephson was in advance. The weather was exceedingly rough, and the river so dangerous in consequence, that we were obliged to unload the flotilla at 3 P.M., and the loads were carried on to the camp, which was about twenty minutes ahead. Jephson went up river to find a canoe.

As we pass up the river the rapids become more numerous, and the navigation, in consequence, more tedious and difficult. Stairs is doing well; some of the periosteum has been rubbed off his rib, which will have the effect of making his recovery more prolonged, as it is probable that a portion of the bone will undergo exfoliation for want of nutrition.

AUG. 25.—We started very early. The scouts gave Nelson a great deal of trouble. He was in advance, and they left him and went off to look for food in the villages. They refused to go beyond a certain place; but, when Mr. Stanley came up, they soon fell into their proper places, and went on quietly again.

We camped at 3 P.M. The men are always 100 per cent. better off when we camp in a village; they are well housed, without the trouble and fatigue of collecting the materials for sheltering themselves; they are protected from the wind and rain, and their firewood is always at hand; while food and water are also sure to be close by.

The Zanzibaris behave very strangely. After a weary day's march, carrying from morning till night a load of from 60 lbs. to 80 lbs. in weight, on arriving in camp they almost in-

variably go off long distances foraging for food. Many of them come back wounded.

AUG. 26.—We started at 7 A.M. Nelson was ahead with his company.

We halted at a large river for luncheon, after which the Expedition was conveyed across in a canoe. Here we met Mr. Stanley and Stairs with the river party, in the boat and canoes. We now heard the well-known (and unmistakable) sound of a cataract ahead; and, after three hours' marching, we reached it. This is at the junction of the Nepoko (of Junker) with the Aruwimi. They join at a right angle, and a beautiful cataract is formed at the line of confluence—the Nepoko dropping into the larger stream by a beautiful cascade.

We encamped in a village just opposite to the Falls, where we got a supply of plantains and manioc, and made a boma or stockade of banana stalks around our camp, so as to prevent the arrows penetrating directly into the houses.

The houses are rectangular in outline, with moderately sloping roofs; and each has a little stockaded courtyard for protection of the inmates.

AUG. 27.—We remained in camp all day, and the stronger men were sent in detachments to seek for food. The plantains are improving as we go on. Jephson was sent inland with 100 men, to draw down to the river a dug-out canoe which had been made by the natives, at a distance of about 2¼ miles from the river.

There are now very many sick in camp; most of them are suffering from ulcers of the lower extremities.

At 5 P.M. Juma (of No. 1 company) was carried into camp, and placed on the ground opposite Mr. Stanley's tent; he had been shot with a Winchester bullet through the right foot by one of his companions, whether accidentally or intentionally we never could find out, although a court of inquiry was held. The missile had entered at the heel, and passed through the tarsal and metatarsal bones in the direction of the little toe. After a careful examination, in which I found that most of the bones of the foot had been shattered into fragments, I came to the conclusion that there was not the slightest chance of saving the foot, and that unless amputation was performed at once his life would also be probably lost. Mr. Stanley explained this, in his usual calm and persuasive way, both to Juma himself

and to Rajib Bin Pemba, the nearest relative of the injured man, whose consent it was necessary to obtain also. They agreed that I should have *carte blanche* to do whatever I thought was for the best. I had just time to operate before sunset; so I there and then removed the foot, by amputating immediately above the ankle-joint. It was necessary to go a little *above*, as the joint itself was injured. Nelson gave chloroform, and Mr. Stanley assisted. After I had dressed the stump, and made the patient fairly comfortable for the night, Mr. Stanley and myself proceeded to search the amputated foot for the impacted bullet. After an examination which occupied a considerable time, we found it close to the skin under the little toe; having smashed the small bones of the foot into little fragments in all directions as it passed forwards.

Later on in the evening, some unsuspecting chickens returned from the bush to roost in our village; and they furnished us with some useful exercise in trying to catch them.

The natives catch a great deal of fish in lobster-shaped baskets, which they set on the top of the cascades. Of course it would be suicidal to halt the entire column and attempt to procure sufficient fish for even one meal in this way.

Aug. 28.—Juma's temperature is normal, and he feels well. The stump is well wrapped up in carbolised gauze.

This perpetual marching through an apparently never-ending, dark, unbroken forest, has (very naturally, I think) a most depressing effect on the men. They have almost come to the conclusion that there is no use in hoping that we shall ever see the open plain again. We are all looking worn-out—man and beast declining. Of the six donkeys which we brought from Yambuya on the 28th of June, but three now survive, and one of these possesses at present but a very limited expectation of life. The three deceased donkeys died simply of the effects of long marching, complicated with the negative trials of starvation, for they were never required to carry anything but a few pounds, besides their saddles—which, however, like all English equipments for hot climates, were much too heavy (18 lbs. each).

We were "bushed" to-day, and could not manage to reach the place where Mr. Stanley and the river party had camped. However, we contrived to reach a village just at dark, and we

halted there for the night. Mr. Stanley was about two miles in advance of us.

AUG. 29.—Mr. Stanley struck his camp early, expecting us to arrive without delay. We could not, however, start before 7.45 A.M., as eleven boxes were still missing, their carriers having failed to reach camp last night. We sent back Omar, the Muniapura, with eight men, at 5.30 A.M., to seek for the absentees; and, on their arrival in camp, we pushed on to meet Mr. Stanley. Although he was but two miles off, we did not reach him till 10.30 A.M., on account of the extreme difficulty of cutting our way through the thick bush. We were also delayed in crossing a river, as we had but one canoe, and this could convey but six persons at a time (without loads). I was in advance, and, of course, first met Mr. Stanley. I received a wigging for my delay; he is of such a go-ahead temperament, that he never seems to realise obstructions except he actually sees them.

Nelson was very feverish and ill yesterday, so I put him in a canoe. He is much better to-day.

AUG. 30.—We struck camp at 6.30 A.M.; the flotilla was obliged to wait till 7.30 A.M., on account of a fog, which cleared off at this hour, when the sun got up. Since we left the junction of the affluent Nepoko with the Aruwimi, we have observed that the latter is smaller in volume by about one-third. The native canoe-paddles have altered in form, from oar-shaped to spoon-shaped.

Our highest latitude up to the present has been at a point near Mugwye's village, where we reached 2° North.

Two hippos were seen to-day by the river party. Mr. Stanley, with the flotilla, made camp at 4 P.M. Jephson, in advance with the land force, reached camp at 5.30 P.M.; the rear guard, of which I had charge, did not reach camp till 7.20 P.M. The men were thoroughly tired out, having marched continuously from 6.30 A.M. till 7.30 P.M., with the exception of the halt for luncheon—from 11 to 12.30. These men carry nearly 80 lbs. weight each; their box of ammunition weighs 60 lbs., Remington rifle, 9 lbs., accoutrements, dress (if any), food, some rounds of ammunition, sleeping-mat, &c., &c. It is very difficult to keep them together, for when they get fatigued they can easily evade the rear guard by dropping for a distance of five or six yards off the path into the bush, where they are

quite undiscernible. They can then remain there, as they sometimes do, all night. Several of the men spent last night in this way, and came dropping in one by one in the morning: it is marvellous how our men obey us so well, and stick to their loads, under such extreme hardships. Our last box of biscuits is still missing, although a party was sent back to look for it, but they failed to find it or its bearer. We had been keeping this box for an unforeseen emergency, and I am afraid it looks like a judgment of Providence for courting starvation while we had them. The emergency has come now; but where is the box of biscuits? My African experience up to the present has led me to the conclusion that it is much wiser to eat European provisions while you can get them, for keeping them only means that somebody else eats them, at the particular time you want them yourself.

We marched half a mile to the upper end of the cataract. Mr. Stanley ordered me to superintend the carrying of the *Advance* around the cataract; it took sixty men to accomplish this feat, and the task was an anxious one, as she is "distinctly precious" to us.

The box containing my surgical dressings was made of unseasoned wood; and, as an inevitable consequence, it has cracked and warped in several places, and lets in moisture of all kinds with the greatest ease. The result is, that the dressings are getting badly injured; there is hardly a day during which the box does not receive a thorough soaking, either by heavy rain or a plunge in some river.

Stairs, I am gratified to say, is going on very well.

AUG. 31.—Mr. Stanley came down to relieve me of the transport of the boat over the cataract. While engaged in this way, we heard several shots fired off in the camp, which sounded like an attack; or, perhaps, an Arab salute, which is just as furious as—and sometimes more destructive than—an actual fight with the natives; as the high-handed members of this assuming nationality who bear rifles in Africa are by no means careful, when letting them off in hospitable fashion, to take any precaution whatever to prevent their blowing out the brains of their casual acquaintances. It was just 3 P.M. then. We rushed up to the camp as fast as we could, and were surprised to find some men there with tower muskets, who spoke Kiswahili, and told us that they were Ugarrowwa'

men, under the leadership of a chief named Balyozi. They had very hospitably brought us a present of some fowls and a goat. Ugarrowwa is a Zanzibari chief, and is slave to the great ivory hunter, Abed Bin Salem. He has settled just now higher up the Aruwimi, for the purpose of collecting ivory. These men looked prepossessingly smart and intelligent, and they had their rifles bright, clean, and in good order. They were cordially received by our men, who had long ago given up all hope of hearing their native tongue spoken again. Our leader speaks their language fluently; we officers are only beginning to make ourselves understood, for the language is a very copious one.

SEPT. 1.—I was with the advance column on to-day's march. We got over four or five miles, and halted for the day at 11 A.M. We passed through a very long village, where the men got plenty of plantains. We saw three children impaled on spears here: one was dead, but the other two were *still living*. The boat was taken out of the water by Jephson, and the men were sent back for a store of plantains.

SEPT. 2.—We remained in camp all day. I dried my clothes and medicines, dressings, &c., all of which had been wet for the past ten days. There had been no time for drying them, as we marched from morning till night, and there is no chance of drying in the forest on account of the complete shutting off of the sun's rays by the dense foliage.

I was called up at 3 A.M. to attend Mr. Stanley, who told me that he was developing symptoms of dysentery, as he had great tenesmus, &c. Curiously enough, all of us white men are now suffering from the same symptoms, and accompanied in each case by fever. We are camped in a low, swampy place, and the wind is blowing from the marsh towards us; possibly this is the cause of the sickness. Mr. Stanley thinks it may be due to the drinking water, which had probably been drawn by the careless Zanzibari cook from the river's margin, where the water close to the brink is usually soiled by the customary habits of ablution of the Zanzibaris.

The men were sent off for plantains, but some did not return; and it is believed that they have deserted to Ugarrowwa's camp, which is supposed to be somewhere near.

SEPT. 3.—We did not leave camp until 10 A.M., as the morning was occupied giving each man twenty rounds of

ammunition, and ten rounds to each Winchester repeater; and also, in prosecuting a search for the supposed deserters. Our leader looks very seedy, although he felt a little better after breakfasting on a pill of lead and opium. His condition gives me great anxiety, as we would be in a terrible fix if anything serious happened to him. All the whites are bilious and weak after their sudden illness. I still think it was the position of the camp that made us all ill; it was placed near a swampy, fœtid, malarious marsh, the exhalations of which were sufficiently copious to ensure the destruction of any number of Europeans who remained long in its vicinity. I saw this when we were about to encamp, but we are obliged to take any place we can get.

I was on rear guard, and was obliged to leave one Zanzibari behind for want of transport, as he could not march. Before leaving camp we buried several tusks of ivory, some shovels, axes, &c., as we have not sufficient hands to carry them further.

SEPT. 4.—We did not leave camp till 10 A.M., as the whole morning was occupied in rearranging the companies—for so many men have deserted since we met with Ugarrowwa's people, that it has been causing considerable confusion, and threatens disaster. Twelve men absconded last night with their rifles, and already about a dozen boxes of ammunition have been lost or taken by deserters; so that, at this rate of dispersion, our stores would seem to be doomed to early destruction.

Mr. Stanley had a general muster, and made a speech to the men, telling them that when they have brought the ammunition to Emin Pasha their hard work will all be over. Every one is out of plantains, so that we have now nothing to eat, but are nourishing ourselves with the hope that we may have luck enough to find some food to-morrow.

The rifles of a good many of the men—whom Mr. Stanley saw reason to suspect—were now disabled by having the spring taken out.

SEPT. 5.—*We are all without food.* We left camp early; I was in advance, and we arrived early in the day at some villages where we got some plantains and three goats. The feasting which followed was simply luxurious, as we have been starving so long. It takes at least two of our men in their present weak condition to bring one goat to a standstill.

We expect more desertions; as it is rumoured that Ugarrowwa's men are loafing about in the bush, trying to induce our men to go over to them, and share their fortunes. Mr. Stanley never anticipated these difficulties, as he thought he should be at Wadelai about the 15th of August. A bright prospect! two more months of this kind of life before we hear anything of Emin!

SEPT. 6.—I was on rear guard; we marched from 7 A.M. till 6 P.M. and camped below a cataract. We were so tired and wet that we have opened some brandy (for the first time), and added it to our tea. Three men, who were unable to march, had to be carried all day.

SEPT. 7.—The canoes and boat were drawn on rollers over a long flat surface of rock, and in this way passed the cataract. The transport of the canoes occupied 100 men. Stairs, Jephson, Nelson, and myself were sent across the river, with our companies, to get food: we returned in the evening. Our camp is in a beautiful position—on a bluff at the angle of the river. It overlooks the cataract, which presents a very attractive scene.

SEPT. 8.—All No. 1 Company's loads were carried in canoes, and I was in advance, while Nelson took the rear guard. Travelling to-day was fearfully difficult, as there is not a vestige of a path, and the scouts, forty in number, had to cut with their bill-hooks through solid bush all the way. Our course was along the side of a very steep hill, and we travelled in a southerly direction during the whole day's march, stopping to camp at 2.30 P.M. The river made one very large curve, and several smaller ones, as we passed by it.

This is the seventy-third day of our march; it is slow, and tries one's patience: I wonder how Job would have got on here?

SEPT. 9.—Jephson's loads were distributed between the boat and canoes. They had bye-and-bye to be taken out, as a rapid obstructed the passage; after passing which they were replaced, and proceeded as before, passing another rapid without being discharged. The land party halted to camp at 3.30 P.M. Mr. Stanley arrived with the flotilla three hours later. Foraging parties were sent across the river here; the men returned (very late) with large quantities of plantains, tobacco, and *bhang* (*i.e.*, Indian hemp), which the natives smoke, and all of which

we confiscated, as it is very injurious; its first effect is exhilaration of spirits, a kind of inebriation; then mirthful delirium; then confusion of intellect; and, finally, sleep.

SEPT. 10.—I was in advance to-day. Nelson's loads were taken in the *Advance* and the canoes. We stopped at 9 A.M., and pitched our tents close to the foot of a large cataract. Very heavy rain fell, thoroughly drenching our tents and ourselves, with the entire baggage. About two and a half hours later, Mr. Stanley arrived with the flotilla; and, after surveying the cataract, sent the boat and canoes ahead as far as they could go. He also ordered the column to advance to a new camping-ground, about a mile further on.

This is the largest cataract we have yet encountered. Nelson's donkey, which has been on the eve of dying of starvation, strayed away into the bush and is lost: it is too weak to give us notice of its whereabouts by braying.

SEPT. 11.—The *Advance* was carried beyond the rapids in five pieces. The canoes were sunk. Nelson had an unsuccessful hunt for his donkey. I went foraging with a party of forty men, and succeeded in getting some plantains.

We were obliged to leave our Somali boy behind; he was unable to travel further, being literally reduced to a living skeleton—integument and bone.

SEPT. 12.—The morning was wet, but soon cleared up. There was a parade for health-inspection before starting, and three sick men were left behind in camp, as they were unable to march. Peringania (Company No. 1) was of the number. We had no transport.

SEPT. 13.—Saadi (Muniapara), a chief in No. 2 Company, was sent back early this morning to hunt up one of his men who had not come in with his box of ammunition. As there is no sign of the return of either, we conclude that the Washenzi have caught him, as he took but one companion with him, instead of the usual escort of five or ten men. We marched to a rapid, which we reached at 12.30 P.M. We then passed through a village, and camped close by the river. All baggage was taken from the canoes and boat, and piled carefully up. Jephson unscrewed the boat into its sections.

SEPT. 14.—We cut a track for the canoes and boat; the latter was carried by sixty men. One canoe was brought round by the river.

Very heavy rain fell to-day.

SEPT. 15.—We did not commence marching till late in the day, on account of the very heavy rain. The latitude is now 1° 24′ N. One of Nelson's men ran away with a box of ammunition.

Last night's downpour of rain left us with two and a half feet of water in our tents this morning; so that all articles too heavy to float had to be fished for: compass, watches, &c., &c.

The desertions are strong arguments in favour of the Congo route, for as even here amongst enemies they desert, what would have happened if Mr. Stanley had taken advice and gone from the East Coast? Simply this: we would not have had a man left by this time, as they would have all run back to Zanzibar as they have done from other explorers; besides, the distance—from where we disembarked from the steamers—is not a third so long as the journey from the East Coast would have been to where we hope to meet Emin.

SEPT. 16.—I was in advance to-day. We marched about eight miles. At noon we heard loud firing on the river, the reports seemed very much louder than those of the Remington or Winchester rifle. We were, of course, considerably agitated, and immediate preparations were made to resist an attack. I went towards the river, and heard from Mr. Stanley that a party of Arabs had been to visit him, and fired a salute, which was the report we had heard. This was a pleasant surprise—meeting with semi-civilized people in these parts, after our experience of forest life. They had come over from their camp on the opposite side of the river; and a large staff—including some women who sang—accompanied the chief. They had a large number of guns and rifles, from the modern Winchester to the flint-lock, and these were all well kept and bright. The chief presented Mr. Stanley with a few goats, chickens, rice, and plantains. We forded across a small river, and pitched camp on the opposite side, delighted with our new acquaintances.

SEPT. 17.—Jephson was in advance to-day; we marched two miles—to a point on the river just opposite the Arab camp, where we pitched ours. The Arab camp looks a compact and comfortable village of mud and wood huts, with large verandahs; and the entire place is well fortified. Mr. Stanley went in his best suit, fragrant with "wood violet," which

especially adds to one's importance amongst these people, and wearing a sword (which was presented to him by Sayed Bargash, Sultan of Zanzibar) as a talismanic weapon, to pay a state visit to the chief. This Sultan has more power in Central Africa, than perhaps any other man living. (It is the custom among the Arabs to wear side-arms of some sort on all great occasions.)

The Arabs and their men (principally Manyuema) came across the river and did a good trade with our men—exchanging plantains and other eatables for clothes, cowries, and beads. Our men stripped almost naked for this barter; their recollections of the starvation of our forest march proved stronger than any other argument. We got plantain *flour* here for the first time, even the Zanzibaris never knew of this preparation.

What a contrast the sleek, fat, and burly Arabs made with our lank and sickly skeletons, reduced as they are by the hardships of the forest and the march! The latter have all an ashy-grey colour, terribly suggestive of decomposition; the Arabs look sleek and prosperous.

CHAPTER VI.

FROM UGARROWWA'S TO IPOTO.

We barter with the Arabs for food—Our sick are left in their charge—Ugarrowwa captures three deserters, of whom we make examples—Crossing the Lenda river—Devastated villages—Another big cataract—Mr. Stanley's dog Randy and the guinea fowl—Grim starvation, grim despair have possession of us—Welcome discovery of some plantain trees—Providential escape of Lieut. Stairs from an elephant—Fair specimen of a Zanzibari fact—We buy rice from some passing Manyuema—The forest an utter wilderness—Foragers are sent back to the banana plantation—We traverse very rough ground—Wadi Khamis's canoe—On the wrong track: our column returns to the Aruwimi—Junction of the Ituri and Ihuru rivers—Mr. Stanley holds a shauri—Nelson and the sick are left behind in camp—Unsuccessful efforts to find game or food—I have another attack of high fever—Cakes made of large brown beans—My faithful chief, Feruzi Ali, wounded by savages—Our second starvation camp—Capture of a native woman—Rehani deserts, taking my clothes with him—Jephson arrives in camp with some Indian corn—The steel boat *Advance*—Critical state of Feruzi Ali—I approach the Adamite state of existence—We hold a long shauri—Accident to men while collecting *mabunga* fruit—Mr. Stanley shoots his donkey and distributes the flesh amongst us—Forest fruits our only means of sustenance—We disturb a hornets' nest—My boy steals some of my Indian corn—Arrival at the longed-for Arab village of Ipoto—Reception by the Manyuema.

SEPT. 18.—All the companies mustered in their full strength for the march, leaving those unable to proceed to stay with Ugarrowwa till our return. No. 1 left eight Soudanese and five Somalis behind; No. 2 left fifteen; No. 3, twelve; No. 4, eleven. Also about forty Remington rifles, made unserviceable by removing the springs. Mr. Stanley made arrangements that these Arabs should communicate with the rear column, and carry letters to Barttelot. The Maxim gun was fired to impress and amuse the Arabs; but it did not work very smoothly. We all sold what we could possibly spare of our scanty kit for food. Nelson gave a shirt to an Arab chief for some plantains; but, having paid first, he received no plantains, and never again saw the man who took his shirt; the

market was brisk, my blue and white pyjamas were first favourites.

SEPT. 19.—We marched about eight miles. It was very slow work, as the ground was so very greasy and slippery after the rain. The flotilla was escorted by the Arabs for a short distance—playing, singing, and beating drums. We were conveyed across a river in canoes. Three of our men had deserted, and remained in our camp, hoping to go over to the Arabs. They were, however, promptly seized by Ugarrowwa, who gave them fifty each with the cowbash, and delivered them up to Mr. Stanley, sending them quickly after him in canoes. The wretched men were immediately tied to trees for the night; the Arabs were cordially thanked, and received a present for what they had done.

SEPT. 20.—Early in the cold morning all the companies were formed into a square, and the three deserters were placed in the centre; they were all doomed to be hanged. They drew lots (short and long) who should go first; the second to be executed to-morrow, and the third next day. Mabruki was the first to go; so a rope was placed about his neck, and he was tied to the top of a flexible tree which was pulled down for the purpose. This tree, however, cracked; and, accordingly, could not rebound, so the rope was thrown across a strong branch, and he was pulled up by his comrades who were prisoners. When a short interval had elapsed and Mr. Stanley asked the question, "Is he dead?" I answered, "Yes," and the column immediately filed out of camp, leaving Mabruki's lifeless body hanging to the tree.

SEPT. 21.—During the night one of the deserters got away, and also two chickens were lost—the latter was looked upon by many as the much more serious tribulation. The remaining deserter was brought on the scene at an early hour; all the men were fallen in in square formation, and, just as the rope was adjusted and everything ready for the suspension of the unhappy culprit, all the chiefs came forward as one man and fell at Mr. Stanley's feet, which they kissed, and begged the prisoner's life. This was granted (the tactics had been suggested by Mr. Stanley himself to the head chief). In the evening the other deserter turned up, and our leader took the opportunity of making a violent and impressive speech to the men. I was in advance, and in the afternoon reached a river, the

Lenda, about 120 yards in width. This we crossed in canoes, and we immediately camped on the other side. The men were let stroll off for food, as they had none; they returned without any. We took advantage of the fine weather to-day to dry our clothes, medicines, dressings, &c., which sadly needed the attention, as they had been thoroughly soaked for several days. We have rarely been so hard up for food.

Nelson got a shot at an elephant to-day.

SEPT. 22.—We started *without breakfast*, and continued our march *without luncheon*. In the evening the men got a little food—where we camped. We also procured a goat, which was rapidly dismembered.

SEPT. 23.—We left camp at 6.30 A.M., and marched till 5 P.M., with the exception of an hour and a half spent at luncheon. We passed through a very large banana plantation where the men got a little food. Mr. Stanley had a shot at an elephant from the boat. He was hit but not killed (as he lay asleep on an island in the river). None of our rifles are heavy enough for this kind of game.

Nelson was carried in a canoe to-day; he was unable to march, as he has several ulcers on his toes.

Ugarrowwa and his ivory-hunting party have certainly spread desolation all around this part of the country; we every day pass by ruined villages, the natives of which have all been chased away, or destroyed.

We expect to meet more Arabs to-morrow.

SEPT. 24.—All our men, with the small exception of the scouts and six others, were off foraging to-day. The party kept in camp were set to work to cut a road to the top of the cataract: it is 150 yards long. The fall is about 40 feet in height, so that it is one of the most voluminous we have hitherto met with.

Several of the men have gangrenous ulcers of the feet and legs—simply from the want of nutritious food; as they have had to live exclusively on manioc and bananas since leaving Stanley Pool in April last. It was a very great relief to me to have so many of the sick left behind at Ugarrowwa's; as I was really getting very seedy from the amount of work I was obliged to do amongst them.

SEPT. 25.—We left camp early and marched to the foot of a cataract. Here all the loads were taken from the canoes, and

carried by the men to a point on the bank above the cataract. The *Advance* was also conveyed in sections; and six canoes were dragged along the same path.

SEPT. 26.—*No breakfast, no luncheon*; grim starvation, grim despair have possession of us. We came to "bad water" after two miles of marching; when the canoes were unloaded, and again reloaded after passing. This bad water interval extended for about two miles, with patches of smooth water here and there.

Curiously enough, Mr. Stanley's dog Randy caught a guinea-fowl, so that Mr. Stanley, Nelson, Stairs, Jephson, and myself had each something to eat. We were all very much exhausted from hunger, especially the men, as they had had no food for days, except an occasional fruit or any other eatable which they could find in the forest. This surprise was providential, and a marvellous coincidence, as our chief had halted the starving column—to rest a little, and had just been saying that the days of miracles had not yet passed, alluding to Elijah being fed by the ravens, &c., when the bird fell at our feet: it was the only guinea-fowl we saw in the entire forest!

SEPT. 27.—Great luck! Just opposite our camp were some plantain trees. On making the discovery, all the men were rowed across the river; they returned in the evening with a great quantity of bananas, which were greedily devoured. The men were served with seventy-five plantains each; they were not, however, very large or substantial; I disposed of twenty at one sitting without any prominent ill-effects.

Nelson, Jephson, and myself remained in camp. I was looking after the sick and dressing ulcers, all day long. Stairs was sent up river to reconnoitre, and had an extremely providential escape from an elephant which he had wounded. The infuriated animal charged him, but he saved himself by crouching behind a tree. All the sporting Zanzibaris were off and up the trees like lamplighters, when they saw the elephant charging. Stairs wounded a second elephant, and one hippo.

SEPT. 28.—We struck camp early, and made a march of about nine miles up river, to a point opposite an island on which we saw a large number of huts, and a crowd of natives who commenced shouting and shooting arrows. Mr. Stanley, who was with the flotilla, had some bad water to pass; so that he did not arrive so soon as we did; and we could not cross

to the island, as we had no canoe. The natives soon cleared out, and crossed in canoes to the opposite bank. When they had all gone, some of our men swam to the island; but found nothing there to eat except some dried pieces of elephant's flesh.

SEPT. 29.—Mr. Stanley arrived at 9 A.M., with the flotilla. The last of the canoes (with Nelson in it) did not drop in till about 4 P.M. One of the Zanzibaris told Mr. Stanley, while he was anxiously awaiting the arrival of this canoe, that he had seen Nelson alone in the canoe, far down the river, turning round and round in the rapids. This was, of course, pure imagination; but is a fair specimen of a Zanzibari fact, and shows what they are capable of portraying if listened to with any attention.

The men went in search of food, but found none.

SEPT. 30.—I was in advance to-day. We started early and marched till 11.30 A.M., when we halted for rest and "terekeso." This was prepared and despatched, at 12.30 P.M., when we resumed our march. We progressed steadily then, till we arrived at a small primitive native village; where I halted till Mr. Stanley came up. We then pitched camp, and the canoes arrived soon after.

At 2.30 P.M. five or six Manyuema arrived, and fired a salute. They said that they came from a settlement on the Lenda, about four days off. They offered for sale rice in small quantities, which we purchased *dearly*. Our men went off in various directions in search of food, but found none. Stairs found a small antelope, like a gazelle, caught in a native game-trap. Didn't we enjoy the prize! The flesh was beautifully tender.

OCT. 1.—Our men are starving. They have been away all day for food, but found little or none; two men of No. 1 company, however, accidentally struck a banana plantation in their wanderings, and brought in some good specimens.

The forest is such an utter wilderness—huge gloomy trees and dense thick bush beneath—there is no chance of shooting anything in it; one can never see more than a few yards ahead. If any person loses consciousness of the exact direction in which he started, after having penetrated to a distance of a few perches in the bush, he has no means whatever of guiding him back except he has a compass to steer with. No visible or tangible trace is left in the dense undergrowth; and,

accordingly, it is most dangerous for the men to wander from the line of march, or from the camping-place, even for any trifling distance. Of all the scenes of desolation for any human being to be left alone in! I could not have fancied it before I came here. Snowed in at the North Pole, launched in a canoe in the middle of the Pacific Ocean, hardly either could compare with it.

Oct. 2.—As food is of vital importance, we halted again to-day; and the men were sent off for something edible to the banana plantation which had been discovered yesterday. They were under command of Stairs and myself. In the evening we returned, with all our men and a sufficient supply of tiny bananas to give each person forty. Invariably a white officer takes command of his Company on a foraging excursion, as the Zanzibaris are reckless and lose themselves. They do not like the arrangement, as they say that the white man always wants them to "fall in," "fall in."

Oct. 3.—We started early, and marched over exceedingly difficult ground—very high hills and deep valleys were traversed. Camped at the bottom of a ravine by the river bank (at 6.30 P.M.), after a wearying march of five miles. We ascended 300 feet to-day. It was now impossible to march close to the river, on account of the enormous boulders and the extreme ruggedness of the surface between. The boulders would have to be climbed over or walked around—either forming a laborious operation, and more than doubling the distance to be traversed; and the roughness of the stony surface between is a great deal too trying for the feet, badly shod indeed we now are for such peregrinations. Our march, after choosing our ground, was hard enough.

Oct. 4.—We marched to-day over atrociously bad ground, and succeeded in making but two miles. Stairs was in advance; the entire Expedition was transported across the Aruwimi river to the right bank, an operation which lasted from 10 A.M. till 2 P.M.; and, fortunately, was completed without any accident. Hatebo Wadi Khamis very nearly lost his canoe, full of boxes and men. It got broadside on to the current, and was swept rapidly down stream; and were it not for the great skill and agility displayed by the man who guided it, by means of a paddle at the stern, all would have been lost. As it was, the canoe was got safely to shore.

We camped on the river bank for the night. We were tired enough to wish for the halt, short as was the actual distance we had passed.

Oct. 5.—I led the advance guard to-day, and, as marching by the river was so excessively difficult, I struck inland, and mounted the neighbouring hills, where I found a good path. Along this we marched till 10 A.M., when we came to a splendid cataract, where the water fell through a perpendicular height of over 100 feet. Just here Stairs (who was in command of the rear guard) received a letter from Stanley, telling him to return, as we were following a tributary of the Aruwimi, and not the river itself. We accordingly returned for about two miles, and re-crossed the Aruwimi—just at the junction of the Ihuru and Ituri to form the Aruwimi trunk.

Having re-crossed the river, I was immediately dispatched to cut through the bush, so as to form a road up to the side of the hill for our next day's march. Jephson was deputed to take the boat to pieces, so as to have her ready to be carried conveniently. Our river navigation is now at an end for the present; we have reached the union of the parent streams which join to form the infant Aruwimi; the Ituri descending in a series of cataracts, and the Ihuru issuing with boisterous velocity from a rocky ravine. Each of these presents a comparatively narrow bed, and is far too violent in its course to tempt the confidence of the oarsman.

Oct. 6.—At daybreak—as soon as all were awake and stirring—a shauri was held between Mr. Stanley, his officers, and the chiefs among the men, (who correspond to non-commissioned officers.) The result of the conference was that it was decided to sink all the canoes, and leave behind every one unable to march. Accordingly fifty-two sick men, with Capt. Nelson, who was also an invalid, and one chief—Umari—were left behind. Rashid and three other chiefs were sent ahead, to try and find some food for the starving men; while Mr. Stanley, at the head of the remainder of the column, marched off—with as many loads as our enfeebled men could carry, including the boat. The remaining loads, eighty-one in number, were left behind with Nelson. We are to push on, as fast as we can, to reach the Arab settlement, which we have been told lies before us; and to send back food for the relief of the invalid party we are leaving behind, as soon as

NELSON'S STARVATION CAMP.

we reach it. The boat had now been in the water for the past ninety-two days.

The road which I had prepared yesterday was utilised for the march out of camp; and the mingled picture—of scenic loveliness and ghastly human bereavement—which lay around us as we prepared to move, could hardly be overdrawn in the wildest flights of imagination. The continuous melancholy moan of the cataract close by, made the picture more impressive; it was altogether the most heartrending good-bye I have ever experienced or witnessed. I cannot fancy a more trying position than that of abandoning, in this wilderness of hunger and desolation, our white companion and so many faithful men; every one of whom has risked his life dozens of times for the relief of our hypothetical friend, Emin Pasha.

And so we turned our backs on our poor helpless comrade, and the fifty-two morbid specimens of humanity which were strewn around him, on the lone sandy terrace formed by the southern bank of the Ituri. The surrounding prospect was limited to the river and the junction of its two formative tributaries, shut in by steep and woody hills, rising from the water's edge to a height of about 600 feet. And the only sound was the monotonous roar and splash of the cataracts and rapids, which might have been enjoyable enough in another place, and under more favourable circumstances.

[This is "Starvation Camp" No. I.]

Oct. 7.—Mr. Stanley went in advance to-day; Stairs, Jephson, and myself formed the rear guard of the column. The numbers were now so reduced, that we three were the only men available for the rear guard, and it was a continuous scene of pushing the men along, and lifting boxes on their heads. We did not reach camp for the night. The boat was always behind; being caught every few yards in the vines and bush, as the pioneers had cut but an imperfect path for us.

I had a severe feverish attack to-day, so I did little except look out for a stray shot, which, however, I did not succeed in obtaining. Mr. Stanley hit an elephant, which escaped to an island. We are now living on our only all, viz., two teaspoonfuls of arrowroot twice a day, supplemented by fungoids and amoma, fruit, etc.

We marched about eleven miles to-day.

Oct. 8—We started at day-break. Jephson and Stairs

bringing up the rear. I walked on to Mr. Stanley, who had pitched his tent opposite to an uninhabited island. He sent me back to tell Jephson to put the boat in the water, and have a look out for the wounded elephant. The animal, however, did not come within sight. Stairs and myself went off for a shot, but got nothing, as the men had been exploring the bush, in the search for forest fruit, and frightened away the game.

I had another attack of high fever to-day. We marched but three miles. Some of our men found a little corn on the island, some of which was distributed to the whites; our share was two milk-tinsful to each. Even this small quantity was a great boon to us in our present abandoned condition. I could attempt to eat very little of my portion, as my fever was too high. My evil star must be in the ascendant at the present period; I can seldom obtain food, and when I do I am unable to use it.

Oct. 9.—All available men were sent across the river, to hunt through the forest for food. I proposed to Mr. Stanley to kill the donkeys, but he said, "Wait." The foraging party was under the guidance of a native woman. Our corn was finished to-day, so that we have absolutely nothing to live on now but forest fruits, fungi growing on decaying trees, and leaves of the pepper-plant. We are all of us now learning a new experience; we have not had such a time before. This is the anniversary of Jephson's birthday; not a particularly bright one for him. One old native woman had collected large brown beans, about three or four inches in diameter, scraped them, and made the scrapings into little cakes, which she toasted and ate. We followed this inspiring example, and found the cakes fairly good,—although coarse, and horse-chestnutty in flavour. The beans had grown on a large forest tree, with large green leaves, and of a height of 150 to 200 feet.

Oct. 10.—Things look blacker now than ever, as the party which went off in search of food yesterday have not yet returned. We have tried our best to get a shot, and failed; we feel quite exhausted. Stairs tried to fish to-day, and succeeded in pulling up three aquatic specimens looking somewhat like gudgeon. Our position is really desperate; to go back is certain starvation; to go forward does not appear very much more encouraging.

In the evening a few men crossed in a canoe to an island, to fetch grass for the donkeys: they were there set upon by some

savages who lay in ambush, and my best and faithful chief, Feruzi Ali, was felled to the ground by a huge knife [which I have still in my possession, vide No. 8 sketch, page 182] that penetrated both tables of the skull and depressed the bone, causing compression of the brain. His shoulder was also badly wounded.

The foraging party returned in the evening, with but very little food, and great quantities of bhang, which is freely smoked by the natives. This is "Starvation Camp" No. II.

Oct. 11.—We started early; Mr. Stanley was in advance, Jephson and Stairs urging on the men in the rear. All loads were carried, as twenty-four men were now relieved from conveying the sections of the *Advance*. I was ordered to wait behind in camp with a small party (till 12 o'clock), so as to get across the river, by canoe, any men who had not turned up last night, and might still overtake us in time. None, however, came; so I sank the canoe, and hurried after the column, which I overtook at 5.30 P.M. The boat went by the river, but was greatly delayed by cataracts. Morabo (of Bumbiré notoriety) captured a woman with beads on, which she had got from the Arabs, and we tried to get some information from her as to the whereabouts of these people. The natives, however, have, unfortunately, no ideas as to *time* and *space* of a sufficiently definite nature to make their opinions on such matters in the smallest degree reliable. So we could not ascertain how far off the much wished-for Arab station may be. They mark off distances on their arms. From the shoulder to the tips of their fingers means one day's march.

We passed a camp about 4 P.M., which had been occupied by the chiefs whom we had sent on before us from Nelson's camp. At muster, in the evening, four men were absent. One of these, Rehani, has my bag with all the clothes I possess—also my sword.

> "When evils come, they come not single spies,
> But in battalions."

Oct. 12.—We camped last night on the river bank. Jephson was sent back to the boat, to make some repairs, and bring her on through the rapids. He brought ten men to carry up loads, and so lighten the boat. A shauri was then held, in which all the members of the Expedition who were present took part—both black and white.

We left camp at 10.30 A.M. I was in charge of the rear guard, and had great difficulty in starting the men with the loads, as they slipped away in all directions, looking for any substitute for food, and picking up any fungus or fruit that might present itself. At last, we did manage to start; and did not halt for the night till late in the afternoon. We then camped opposite an uninhabited island. Some of our men attempted to swim across; and Asmani, of Company No. 1, a very fine fellow, was drowned in the attempt to secure a canoe.

As night closed in, there was no sign of Jephson, boat, or boxes.

OCT. 13.—We waited all day for Jephson, who did not arrive until late in the evening, and without the boat. He atoned, however, for the delay and anxiety by bringing us some Indian corn, which was certainly the means of saving our lives, as it furnished material for a few tolerable meals. They had found two rattan-cane basketsful on an island; one of these had been distributed to the boat's crew; the second was preserved for the whites (Mr. Stanley, Jephson, Stairs, myself and William). The boat had had great difficulty in getting up river through the cataracts. Stairs went for a shot at elephants, but got nothing. Mr. Stanley spent the day looking out for the *Advance*. I remained in camp, preparing a dinner—of forest fruits, fungi, forest beans, and the leaves and green tops of the pepper plant. Feruzi Ali is in great danger; the symptoms of compression of the brain have fully developed, and in an extreme degree. He is quite unconscious, with stertorous breathing, pupils unequal and unaffected by light, slight ptosis, and facial paralysis. I am greatly distressed about him, as he was one of the most faithful men I had, and my greatest friend amongst the Zanzibaris. If he only had two forest fruits he would give me one. I miss my clothes very much. I am now left with two pairs of stockings, and two pairs of old boots. One pair has a peculiar history, as they belonged to a private who served in the Camel Corps for Gordon's relief, and whose leg I amputated after the reconnoissance on Metammeh, 21st January, 1885. As I was then badly off for boots, I appropriated this pair of ammunitions, as they were of no further use to the soldier, and were extremely useful for the return march of 157 miles across the Bayuda Desert to the Camp, at Korti. One ragged pair of knickerbockers, two shirts, one

blanket, and a waterproof sheet—all the rest are gone, and there is no fig-tree in the land! As I pass deeper into the primeval forest, I approach the Adamite state of existence more closely; I only want the innocence, and the happy garden stocked with all good things.

Oct. 14.—The boat arrived early. Jephson had left it last evening a few hundred yards down river, as it was too dark to risk piloting in through these troubled waters. Feruzi Ali suffers from increasing coma, and other symptoms of compression of the brain, the result of the blow received from the knife of the native. The case calls for immediate operation; but I have no trephining instruments; and, if I use a mallet and chisel with unfavourable results, his death will be laid at my door by the men. He cannot last long if the pressure is not relieved.

Jephson's Indian corn is keeping us on our legs to-day. We crossed the river to the opposite bank; it is about 100 yards wide here. We blazed the trees, and put on broad arrows and finger-posts, so as to show the chiefs and others where we had crossed. We also inscribed on the trees the fact that the Relief Expedition has crossed at that point—for information of rear column.

All the men are in a fainting condition for want of food. We are certainly passing through an ordeal of terrible tribulation. I wonder how is it going to end; we cannot exist long on these terms.

Oct. 15.—A very long shauri took place to-day, and every one had an opportunity of airing his opinions, on the desirability of going ahead or returning. Sinking the boat, burying the boxes, &c., were among the suggestions made. Finally, the talking ceased, as there was no time to be lost in debate, and we did make a forward start along the river bank. We soon got up a rather steep hill, reaching a table-land above, where we had better marching ground. Mr. Stanley was in front, and steered (by magnetic compass) N.N.E.

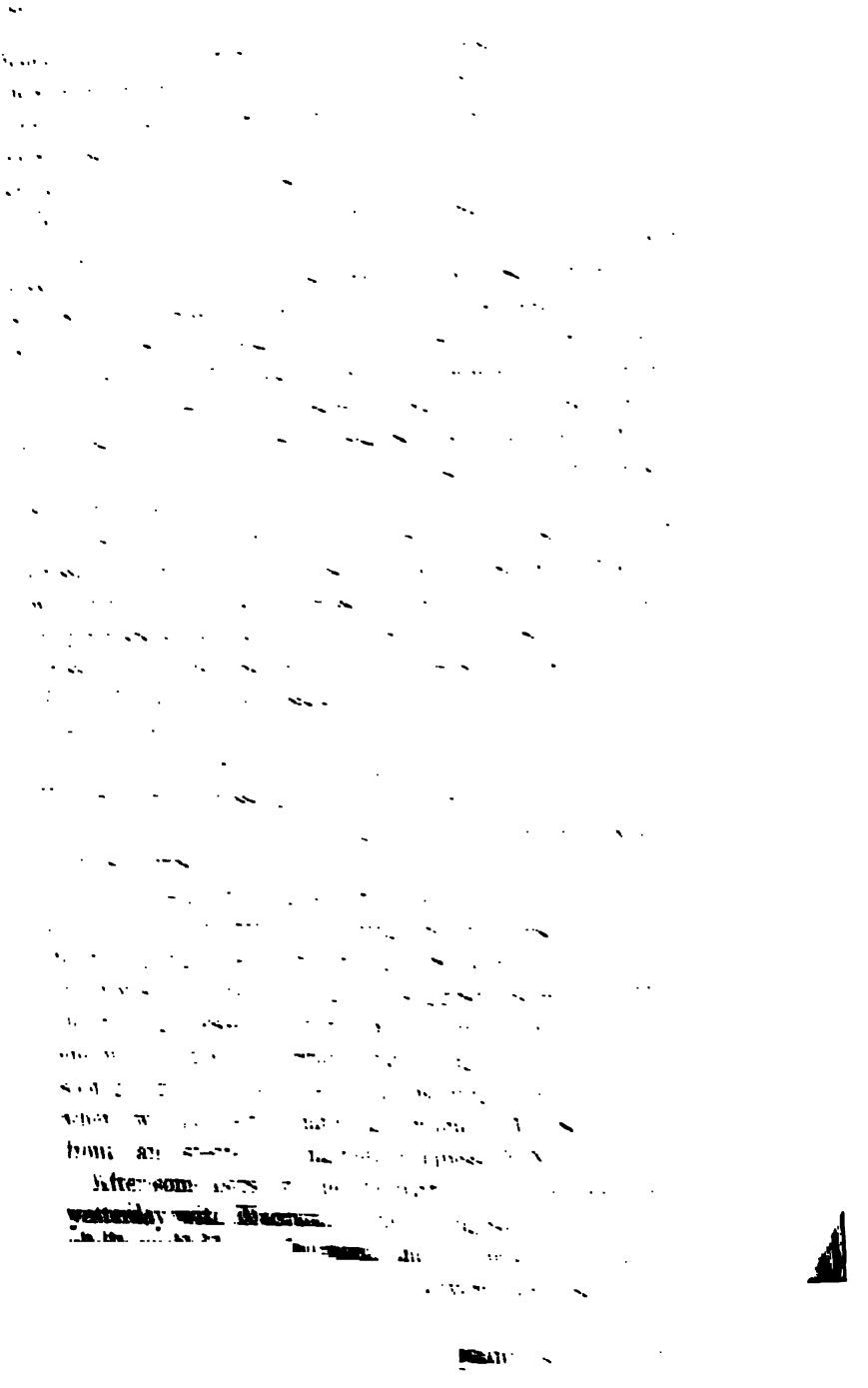
After some hours, we met the party which had been sent out yesterday with Mbaruku, "the kilongosi," or guide. We gladly pushed on with them, and followed a track; hoping soon to find the camp of the Arab ivory hunters, and procure some food.

Mr. Stanley had a shot at an elephant; some of our men

We left camp at 10.30 A.M. I was in charge of the rear guard, and had great difficulty in starting the men with the loads, as they slipped away in all directions, looking for any substitute for food, and picking up any fungus or fruit that might present itself. At last, we did manage to start; and did not halt for the night till late in the afternoon. We then camped opposite an uninhabited island. Some of our men attempted to swim across; and Asmani, of Company No. 1, a very fine fellow, was drowned in the attempt to secure a canoe.

As night closed in, there was no sign of Jephson, boat, or boxes.

Oct. 13.—We waited all day for Jephson, who did not arrive until late in the evening, and without the boat. He atoned, however, for the delay and anxiety by bringing us some Indian corn, which was certainly the means of saving our lives, as it furnished material for a few tolerable meals. They had found two rattan-cane basketsful on an island; one of these had been distributed to the boat's crew; the second was preserved for the whites (Mr. Stanley, Jephson, Stairs, myself and William). The boat had had great difficulty in getting up river through the cataracts. Stairs went for a shot at elephants, but got nothing. Mr. Stanley spent the day looking out for the *Advance*. I remained in camp, preparing a dinner—of forest fruits, fungi, forest beans, and the leaves and green tops of the pepper plant. Feruzi Ali is in great danger; the symptoms of compression of the brain have fully developed, and in an extreme degree. He is quite unconscious, with stertorous breathing, pupils unequal and unaffected by light, slight ptosis, and facial paralysis. I am greatly distressed about him, as he was one of the most faithful men I had, and my greatest friend amongst the Zanzibaris. If he only had two forest fruits he would give me one. I miss my clothes very much. I am now left with two pairs of stockings, and two pairs of old boots. One pair has a peculiar history, as they belonged to a private who served in the Camel Corps for Gordon's relief, and whose leg I amputated after the reconnoissance on Metammeh, 21st January, 1885. As I was then badly off for boots, I appropriated this pair of ammunitions, as they were of no further use to the soldier, and were extremely useful
march of 157 miles across the Bayuda Dese
Korti. One rugged pair of knickerboc



We left camp at 10.30 A.M. I was in charge of the rear guard, and had great difficulty in starting the men with the loads, as they slipped away in all directions, looking for any substitute for food, and picking up any fungus or fruit that might present itself. At last, we did manage to start; and did not halt for the night till late in the afternoon. We then camped opposite an uninhabited island. Some of our men attempted to swim across; and Asmani, of Company No. 1, a very fine fellow, was drowned in the attempt to secure a canoe.

As night closed in, there was no sign of Jephson, boat, or boxes.

OCT. 13.—We waited all day for Jephson, who did not arrive until late in the evening, and without the boat. He atoned, however, for the delay and anxiety by bringing us some Indian corn, which was certainly the means of saving our lives, as it furnished material for a few tolerable meals. They had found two rattan-cane basketsful on an island; one of these had been distributed to the boat's crew; the second was preserved for the whites (Mr. Stanley, Jephson, Stairs, myself and William). The boat had had great difficulty in getting up river through the cataracts. Stairs went for a shot at elephants, but got nothing. Mr. Stanley spent the day looking out for the *Advance*. I remained in camp, preparing a dinner—of forest fruits, fungi, forest beans, and the leaves and green tops of the pepper plant. Feruzi Ali is in great danger; the symptoms of compression of the brain have fully developed, and in an extreme degree. He is quite unconscious, with stertorous breathing, pupils unequal and unaffected by light, slight ptosis, and facial paralysis. I am greatly distressed about him, as he was one of the most faithful men I had, and my greatest friend amongst the Zanzibaris. If he only had two forest fruits he would give me one. I miss my clothes very much. I am now left with two pairs of stockings, and two pairs of old boots. One pair has a peculiar history, as they belonged to a private who served in the Camel Corps for Gordon's relief, and whose leg I amputated after the reconnoissance on Metammeh, 21st January, 1885. As I was then badly off for boots, I appropriated this pair of ammunitions, as they were of no further use to the soldier, and were extremely useful for the return march of 157 miles across the Bayuda Desert to the Camp, at Korti. One ragged pair of knickerbockers, two shirts,

blanket, and a waterproof sheet—all the rest are gone, and there is no fig-tree in the land! As I pass deeper into the primeval forest, I approach the Adamite state of existence more closely; I only want the innocence, and the happy garden stocked with all good things.

Oct. 14.—The boat arrived early. Jephson had left it last evening a few hundred yards down river, as it was too dark to risk piloting in through these troubled waters. Feruzi Ali suffers from increasing coma, and other symptoms of compression of the brain, the result of the blow received from the knife of the native. The case calls for immediate operation; but I have no trephining instruments; and, if I use a mallet and chisel with unfavourable results, his death will be laid at my door by the men. He cannot last long if the pressure is not relieved.

Jephson's Indian corn is keeping us on our legs to-day. We crossed the river to the opposite bank; it is about 100 yards wide here. We blazed the trees, and put on broad arrows and finger-posts, so as to show the chiefs and others where we had crossed. We also inscribed on the trees the fact that the Relief Expedition has crossed at that point—for information of rear column.

All the men are in a fainting condition for want of food. We are certainly passing through an ordeal of terrible tribulation. I wonder how is it going to end; we cannot exist long on these terms.

Oct. 15.—A very long shauri took place to-day, and every one had an opportunity of airing his opinions, on the desirability of going ahead or returning. Sinking the boat, burying the boxes, &c., were among the suggestions made. Finally, the talking ceased, as there was no time to be lost in debate, and we did make a forward start along the river bank. We soon got up a rather steep hill, reaching a table-land above, where we had better marching ground. Mr. Stanley was in front, and steered (by magnetic compass) N.N.E.

After some hours, we met the party which had been sent out yesterday with Mbaruku, "the kilongosi," or guide. We gladly pushed on with them, and followed a track; hoping soon to find the camp of the Arab ivory hunters, and procure some food.

Mr. Stanley had a shot at an eleph[illegible] our men

climbed the trees to get *mabunga*, a fruit which grows on the india-rubber vine. One of them fell from a branch, on top of some comrades, who were waiting below with their mouths open; and *three were disabled* as the net result of the operation. This accident taxed our resources for the conveyance of our loads, as every capable man had a load given him in the morning.

We are all exhausted now, and our men are in a desperate way. Mr. Stanley shot his donkey, and gave a 1 lb. ration of flesh to each man. Marazuki, our old cook, stole the kidneys while carrying the meat to my tent for safety. The men were ravenous, and struggled like pariah dogs for the blood, hide, and hoofs. The tongue is, undoubtedly, the best part—if well *braized*. It is pitiful and painful, to the last degree, to see all the other appetites and passions completely merged in the overwhelming one of *hunger*. Hardly a trace of any other idea seemed to exist in the minds of our starving men to-day, than that of the mechanical introduction of food into the stomach. Poor creatures! they have really borne their privations with wonderful patience. I often wonder they have not done something desperate.

Oct. 16.—We ate most of our donkey meat, and marched early; but there were not enough men to carry the loads, as the poor creatures were dying along the road, and we had to leave them, taking their rifles with us. Forest fruits are but poor feeding at best; we now make a sort of porridge from the scrapings of the beans. Our philanthropic pilgrimage for the relief of Emin Pasha is certainly being carried out with many of the outward and visible signs of an inward and spiritual self-denial, which cannot, I venture to think, be very far surpassed in history. I wonder whether the Crusaders of old had so rough a time of it?

Oct. 17.—We started very early. Had very great trouble in getting the men off, as the depressed creatures could muster up no energy, and they lagged behind very much. Stairs, Jephson, and myself were practically doing rear guard, which means raising boxes on men's heads, waiting for men to come from the bush to take up their loads, and taking precautions that when a man was left behind on the road from inability to march further, his rifle and load were carried to camp.

DONKEY KILLED: THE STRUGGLE FOR MEAT. 4

At about 9 A.M. the column passed close to a nest of hornets, the inhabitants of which stung our poor naked carriers so viciously that there was a regular stampede of howling wretches into the bush. Loads, rifles, &c., were thrown away, as they tried to escape from the venomous pests; and, of course, great confusion prevailed for some time. We were obliged to wait quietly for about three hours, till the hornets had thought proper to retire; we then were able to recover the loads. About 4 P.M. there was a very heavy fall of rain. This caused another serious block, as the wretched men made off for shelter into the holes in the trunks of decayed trees.

We did not reach camp until late. Jephson has high fever. Owing to the wet we were unable to light fires to cook our beans. We are now able to make ourselves understood in Kiswahili; but we never have had time to read Bishop Steer's grammar and exercises on the language.

OCT. 18.—I spent a wretched night, as some of my corn had been stolen, and I remained awake in my anxiety to find the thief. I knew I should certainly hear it crackling while being toasted (or "popped") on the fire. This I accordingly did hear, in the early morning; and, making for the fire with greedy haste, I discovered that the culprit was my own boy. What a powerful motor in human action is the instinct of self-preservation! I gave my faithful Achates "twenty-four" for this work of supererogation. Alas, we are obliged to "do sentry" over our own food in these days of tribulation! We ate quantities of "forced march tabloids," but derived no benefit therefrom. We still have a little stock of brandy, which we gradually help ourselves to during these days, and it certainly has proved beneficial.

One hour after starting on the march, we heard reports of guns in the distance, ahead of us. These we gladly answered. We felt certain now that the Arabs were near, and, with newly inspired vigour, we pushed on to the brow of the hill, at which we came upon a very large clearing, every inch of which was planted with Indian corn and rice, and at the opposite border of which we sighted the longed-for Arab village—about half a mile off. As we advanced, we saw the Arab sentries—posted at intervals to prevent our men from helping themselves.

On arriving at the village, we found that it consisted of about 150 huts, of quadrangular outline, and roofs of consider-

able slope. The inhabitants amount to about 500. We were well received by the chiefs, who are three in number, Ismailia, Khamisi, and Sangarameni. They are all Muniapara (head men) to Abed Bin Salim. They presented us with three goats; also gave twenty-seven heads of corn to each white man, and four to each of the others. Mr. Stanley and his officers got huts to live in. The people are all Manyuema, with the exception of a few native captives. The name of the place is *Ipoto.*

CHAPTER VII.

EXPERIENCES WITH THE MANYUEMA AT IPOTO.

We purchase food from the Arabs—Our men tormented by ticks—Vermin in the village huts—Punishment of Zanzibaris for stealing and breach of discipline—Uledi arrives with the *Advance*—Mr. Stanley makes arrangements for Captain Nelson's relief—Our future plans—The ivory hunters—Jephson and carriers start for Nelson's camp, while Stanley continues the march to Lake Albert—I am left at Ipoto with twenty-eight starved Zanzibaris—Letter regarding some deserters—My orders from Mr. Stanley—A welcome goat—Covetousness of the Manyuema—My occupation of repairing rifles—Jephson and Nelson arrive in camp—Nelson a living skeleton—We fail to obtain food from the wretched Arabs—Jephson decides to follow after Stanley—I write a letter to our leader explaining my position at Ipoto—Attempts to steal our goods—My hut is fired by the Arabs—Ismailia's pretended innocence about the fire—Further desertions and losses of rifles—Return of Chief Sangarameni from a raiding excursion—Our various methods of obtaining food—Visit to Sangarameni—Mohammedan customs—Chief Khamisi returns from a raiding expedition—We pay an official visit to the chiefs; Mr. Stanley's agreement with them regarding food not carried out—Ivory and slave trade in Africa—Pest of disagreeable insects—Illness of Chief Khamisi—Starvation among our men—We are refused ground for planting corn and beans—Chief Ismailia returns with his banditti—My field glasses are exchanged for food—Attempted theft of a box of ammunition—The chiefs still starve us—Nelson's shocking condition—Ismailia accepts my suggestion that we should all be "friends."

Oct. 19.—Yesterday we had a good rest after arriving here, and treated our poor empty stomachs to such overpowering meals of Indian corn and goats' flesh that they soon were disposed to rebel. We purchased fowls and beans for some of the little commodities of our stores, such as needles, camphorated chalk, &c., &c. After a huge meal of beans one felt like a balloon; the distension was indescribable, and forcibly recalled Mark Twain's condition, when he felt that he could use no garment but his umbrella.

The Arabs gladly brought quantities of corn, &c., to be exchanged for clothes; but as I possessed none of the latter commodity, I was obliged to sponge on the others. In the

evening Mr. Stanley told Jephson that he was to go back for Nelson and the eighty-one loads and bring them up to us. The boat is then to be taken in pieces, and left here with the loads; Nelson and Jephson are also to stay here while we go on to Emin.

Our leader had a long talk with us last evening on the subject of our tribulations of the last three weeks.

Oct. 20.—To-day the men of our Expedition had four heads of corn served out to each. We whites got twelve each. The Arabs keep a close watch on the corn, and, as the Zanzibaris are great thieves, a row may arise at any moment.

After getting out of bed this morning, the first case I saw was Mufti Mzinga, with a spear wound in his back, three inches in length and penetrating into the substance of the lung; many other wounds, less severe in their nature, had also been inflicted by the merciless Manyuema. We did nothing all day but rest and eat.

The men are greatly tormented by ticks, which stick in the nostrils, and hold on to the mucous membrane with great tenacity. This morning I found one in my own nostril; it was just like a sheep-tick in outline. These nasty things cause very great annoyance. There are also minute crab-like ticks which bury themselves in the skin.

The huts are crawling with body vermin. The rats are in corresponding abundance; they run over us at night in the most familiar and playful fashion. Vermin of all kinds, large and small, appear to multiply with the greatest rapidity here. Historians are, if I rightly remember, pretty well agreed that Sylla was one of the most fortunate, and, accordingly, one of the most enviable, of human beings; but if the concluding part of their narrative be true—that he died a victim of *morbus pediculosus*—I, for my part, will never again feel disposed to complain, because he received more than his share of sublunar prosperity.

Oct. 21.—This is the morning on which Jephson was to have returned with food for Nelson and the members of his invalid camp. It was found necessary, however, to hold a prolonged shauri before taking any further steps. All the men were fallen into their places, and many were tied up for important breach of discipline, especially selling or losing their rifles; others were reprimanded for minor offences. These legislative procedures

kept us so busy (for the wreck of the Expedition was imminent owing to the autocratic attitude of the Manyuema chiefs, and the helpless condition of our men who surrendered and plundered everything for food) that no relief party could be sent. Later on in the day, one of our cooks was hanged for selling his rifle, so I was obliged to cook the dinner, as I am mess-president for this month. I gave them beans, which I find very filling at the price.

Mr. Stanley always has his meals separately, and we will adopt this plan in future, as it is much the best. A Zanzibari chief was brought up for condign punishment, and a knife was ostentatiously sharpened to terrify him to reveal his accomplices, when, to our surprise, he converted the apparently solemn scene into a farce, by falling fast asleep in presence of all. Even if punishment had been seriously intended, it would have been rather hard to carry it out under these circumstances

Oct. 22.—No chance of a relief party going to Nelson, as we are so completely in the hands of those relentless Manyuema. We feel very much for the poor fellow in his dreadful position; our own more immediate wants having now been relieved. Many men were punished for stealing, and other crimes, and breaches of discipline. Rashid, and the four Muniapara, arrived to-day, looking like skeletons; they had travelled for many miles along the river, but had seen no food, and had almost perished. Uledi and some of the boatmen also came into camp, having followed up the river (from the crossing) in the *Advance;* they report the existence of a large cataract higher up on the river. I sold my scarlet mess-jacket and waistcoat which I brought to wear on state occasions—value (originally) about £7—for fifty-six heads of Indian corn, and a chicken, with a little honey. Accordingly I have now no clothes left but what I stand in. Stairs and Jephson have still some things left to sell. We had the last of our goat-flesh at luncheon: then used my chicken and one of Jephson's for dinner. The only food we have left from the Expedition store is tea.

Oct. 23.—Mr. Stanley was not well yesterday, nor to-day. The floor of his hut was quite damp and soft; so I recommended him to leave it, and live under his tent. He consented; so his tent was pitched, and he moved in. He told me that he

had arranged with the Arabs to have an Expedition sent back for the relief of Nelson; and to bring him, with his men and boxes, up to the camp. I asked him for food, as we have had but 117 heads of Indian corn amongst three of us since the 18th inst., together with a chicken or two. He asked me in return if I had nothing to sell for food: this sank my spirits a little, as we were, according to our contract, to have our food provided by the Expedition. But there is, I fear, no appeal from the pressure of circumstances; our leader is obliged to yield to them as well as the rest of us, and there does not appear to be much to hope for from the generosity of our newly-made Manyuema acquaintances.

Oct. 24.—Nothing particular was done during the day. In the evening, Mr. Stanley called the three of us white officers into his tent, and said that I am to remain here to look after Nelson, with the men and baggage; and that Jephson, on his return from the relief of Nelson, should follow him with all available men. I asked him when I should be relieved. He said three months hence; that I should be brought away with Nelson. Practically, we will both be prisoners here, until redeemed by payment of cloth which is to be brought on by the rear column, and now due for corn, &c., which the men have had. According to my calculation, this payment will be in *nine months* at the earliest. I asked to get the chiefs to agree, if possible, in writing, that we should be fed. He replied that he had done so, and made arrangements to this purpose, but that we should probably get little or no meat. So that we have no prospect before us here but an indefinite period of vegetarian existence, and that limited by any terms which our Manyuema patrons may choose to impose.

Oct. 25.—These Manyuema ivory hunters are of the very lowest class; they are slaves to slaves of the Arabs, and live like pigs. Everywhere, all around the village, the ground is covered with filth. Men and women squat down together—within a few yards of their dwellings.

Mr. Stanley has made the written agreement between himself and these people, that ourselves and our men shall be provisioned during our stay; but I feel that we are simply hostages to these barbarians until the cloth arrives with the rear column to pay, and I think it more than likely that I will be alone, as Nelson may have died or gone down river,

in a canoe, as there was no food where he was left. The outlook for me is, assuredly, not a very bright one!

Oct. 26.—Owing to a breach of promise, the Manyuema could only supply thirty carriers to return with Jephson for the loads at Nelson's camp. Accordingly, Mr. Stanley was obliged to send back forty Zanzibaris, each of whom is to receive a gratuity. Jephson left with the party about mid-day. I accompanied him for about two-and-a-half miles, and then returned to the village.

Oct. 27.—Mr. Stanley marched away this morning with 147 men; almost all of these were loaded. They were very reluctant about going to face the forest again, although they have had very little food since our arrival here on the 18th inst., and had little to start with. Even Stanley and Stairs did not have many heads of corn to start on, although they will be at least seven or eight days in the forest without food, except chance food or fungi. Stairs, however, by selling his clothes, provided himself with a few chickens and some corn. Mr. Stanley has provided himself and the men with some necessaries, by selling his revolver cartridges.

I am now left here with twenty-nine starved Zanzibaris—one or two only are really sick—till I am ransomed by the arrival of cloth to pay for the food that the column has used. I have in my charge the boat, the rifles, boxes of ammunition, and other loads. Last night, in his tent, Mr. Stanley in my presence, gave Ismailia a gold watch and chain, as a pledge for the payment of some guides whom he was taking with him for a few days. [This watch (with chain) was redeemed eight months afterwards—when surrendering it, the chief declared that it had died—and kindly presented to me by Mr. Stanley, on our return to England, with the following inscription: "To Surgeon T. H. Parke, as a souvenir of Fort Bodo and Ipoto, 1887 and 1888, from his friend Henry M. Stanley."]

Oct. 28.—A dismal prospect this morning. Here I am all alone at the mercy of these savages; my twenty-nine men lying all about everywhere—bags of bones as they all are! They are the most sickening sights I have ever seen; poor creatures hardly able to crawl. Our leader certainly seems rather hard; still, I must confess that I do not see how else he could have dealt with these barbarous people—how he has made two ends meet is a mystery. He is different from any other man.

There is no change in his expression or behaviour; he will never be found to sacrifice all in attempting to save one. His policy rather is to sacrifice one and save the remainder.

Last evening, Muni Pembi came back—with a letter from Stairs, asking me to send him on three blocks for the Remington rifles, which I did. This morning, I received the following:—

"My dear Doctor,

"I shall not be happy until I am well clear of these Manyuema. Hateb Wadj Balyuzi escaped yesterday into the bush with a box of ammunition. Saadi deserted also, but left his box. Both men have taken their rifles. Go to my friend Bwana Ismailia; urge him strongly to catch them both, and give them to Massoudi and his men. If you cannot catch them in time for Massoudi, keep them until Jephson comes. Hand them over to him with a strong caution that Saadi has escaped twice now from his captors. Give Massoudi a box of Remingtons to bring to me if Hateb Wadi Balyuzi's box does not turn up.

"Good bye, dear Doctor,

"Yours faithfully,

"H. M. Stanley.

"Dr. Parke,

"*Oct. 27th.*"

Immediately, on receipt of this letter, I asked the chiefs Khamisi and Ismailia, to send out a party and find the deserters. They did so; but the search was fruitless. Khamis Pari returned (sick) with a letter from Stairs. He will proceed with Jephson. Poor Uledi had all his clothes stolen last night, barring a square foot of bark cloth. Fortunately, he still has his rifle. I have received but nine heads of corn as yet. Before Mr. Stanley left he gave me the following orders:—

"Arab village, *Oct. 24th*, 1887.

"My dear Doctor Parke,

"I am so reduced in numbers now, that I have not men sufficient to carry what is indispensable I should do to appear before Emin Pasha with any appearance of success. This morning it came near being a question whether I could take one officer with me, for the volunteers number only 103. Fortunately, the Arabs here were persuaded to use forceful words and menaces to the lazy loons who prefer living on two ears of corn daily than walk for wages with me to the lake, which gave me 43 indifferent men more. Therefore, I see my way to take Lieut. Stairs along, also Mr. Jephson, on condition they reduce their baggage. They have two boys each, and each boy is capable on emergency, which may come yet, to carry a load. The two officers must have one small medicine chest, which I trust you will pack up with what is requisite, say for three months. They must have 25 lbs. of bedding, and 25 lbs. weight of clothing each, and one box of European provisions between them. There are four loads already. I take the large tent with me, which will house us all. It makes seven loads. Were I alone, I should take a small tent (three loads), and leave the large tent behind. This

gives me eight loads to carry for the sake of the two officers. I have been in the habit of taking 20 per cent. of the entire force as supernumerary. I now take 50 per cent. to save loss of goods on the road. The condition of the people compels this as I have only 144 carriers. I dare take only 72 loads, 40 of which must be *Remingtons*. Now if you compute tent, Winchesters, brass rods, medicine chests, chronometers, instruments, officers' baggage, &c., you will see how hard driven we are.

"We have a great number of people yet, but they are scattered along the long track. Total No. 546. Therefore, it is necessary that you should stay at this place, and look after the sick and assist Capt. Nelson in keeping on friendly terms our men and the Arab men. You should keep all rifles and baggage under your own roof. You must beware of fire, and to keep it at a safe distance from you (on account of the ammunition), I would advise setting up a tent, at least 20 yards from the nearest house, build a fence all round it, say 15 feet away, in which store rifles and ammunition nicely. The ammunition boxes should be so laid as to make a comfortable bedstead, but wood should be evenly laid under the boxes, so as to preserve them from rot. One officer should sleep in tent. It may be I shall send a caravan for your goods if I can have aid of any carriers from Emin Pasha. If so, then one of you two officers should accompany the column. If I bring the caravan, both of you may be able to go and stay with Emin Pasha. But by letter or personally, I can explain this better later. The boat, I am sorry to say, must be left here. Please have the sections carefully stored in the court around the tent, so bolts may not be stolen. The rubber should be boxed or put in the hut under shade. This is all I can think of at present, except about the medicine. A few bandages should be sent with the officers —quinine, Dover's powder, tablets of lead and opium, and such things made into a light compact load; and, I might mention a tooth extractor, some needles and thread for sewing wounds. Good-bye, take care of yourself, and Nelson, and our sick people. Keep by all means on good terms with the Arabs, and it is most likely that we may all meet within a few months.

"Yours faithfully,

"HENRY M. STANLEY.

"To DOCTOR PARKE, &c."

OCT. 29.—The Manyuema men from the Lenda left here to-day, which is a curious coincidence in connection with the directions. I overhauled the forty-seven rifles left with me here, and found but twelve in good order; the remainder are unserviceable, but, as I have the blocks, I can mend some of them. I sent Uledi to cut a track to carry the boat up from the river. I got a goat by a lucky mistake; a boy came and cut its throat opposite my door, which is, I believe, the custom. I thought it was intended as a present, and thanked the boy, who, immediately went off and told the chief (Khamisi) that I had taken his goat. However, the chief arranged it, as I had nothing to purchase it with. I afterwards found out that it was really a diseased goat which had been dying, and they wanted to get something out of me for it. Uledi has got leave from me to go off for two days, in search of food, with one

of the Manyuema chiefs (Khamisi). They are proceeding towards the Ituri. I gave soup, made from the flesh of the above-mentioned goat, to all the sick men, and also a share to many of the healthy. These Manyuema are most objectionable neighbours; they covet everything they see. They supply no food, and are disgustingly filthy in their habits.

Oct. 30.—I am my own butcher, as my boys are all sick; so I skinned the goat, and sun-dried some strips of meat, which will come in useful bye-and-bye. The chiefs pay me a visit every morning, and want me to give them everything they see. Covetousness and procrastination seem to be their great characteristics.

Oct. 31.—This morning, after some persuasion, I got Ismailia to come round and agree to give me a better hut; also a site for the tent in which I am to stow the ammunition for fear of fire. Every hut I fancied was *not theirs!* However, there is one which belongs to Khamisi, who is away, and which I hope I shall get. The chiefs say that they feed us all, that they get nothing in return, and that now I want a hut; so I see a storm brewing. I am in an exceedingly awkward position, as I do not speak their language, and they do not speak mine.

Nov. 1.—I was called away yesterday, to see a child which had fallen from a tree, broken its arm, and sustained other severe injuries. I said it would die; it fulfilled my prognosis, for it was dead at 5 P.M. On the way to see it a much more serious accident occurred to myself; I tore my only pyjamas. Now I am left with one old ragged pair of knickerbockers, which I wore up the Nile, and across the Bayuda Desert!

I noticed this morning that one of the Manyuema men wore one of Emin Pasha's coats with Egyptian buttons (crescent and star). I asked him where he had got it, and he replied from one of the Nubians, evidently stolen from one of Emin's bales which we are carrying.

I have now repaired nearly all the rifles with my own hands. I feel that I am becoming quite a skilled mechanic, and the occupation has the personal advantage to me of keeping me from brooding over present ills.

Nov. 2.—Three Manyuema men, of Jephson's party, arrived last night in the camp; and brought the welcome news that Nelson was alive; but of the fifty-two living skeletons left with him, but five now remain, and two of these were in

such an utterly hopeless state that they were left behind. These men had left their loads at the river, three-and-a-half hours off; they were too tired to bring them up to the camp. Many more men arrived to-day, including some of our own men, who report Nelson alive and a skeleton; that many of his men deserted, but his three boys and one man have clung to him throughout. Poor fellow, he stuck well to his post!

I have finished what provisions I had, and sent for more; but the chief would not give me more than one head of Indian corn for dinner. Later on, Ismailia sent me a cupful of sour Indian meal. Ismailia handed over to me all the loads carried by his men from Nelson's place; these are twenty-four in number.

Nov. 3.—Jephson arrived this morning; also a number of men with their loads, but he was without his best chief, Ragib, who got lost in the forest looking for fungi. Nelson followed on foot. Jephson describes Nelson's camp as strewn with dead men. Thirty of the number left had deserted and gone down river; and nothing was left to break the melancholy stillness of the place but the feeble groans of three dying men. One man was found sitting at a fire, and two boys sat close by Nelson. Everything was sad and silent. The Indian corn, rice, and fowls which Mr. Stanley had sent to Nelson were cooked without delay, and the loads prepared for the return journey on next morning.

Poor fellow! he arrived here this evening about 3 P.M.: a living skeleton, with hollow cheeks, sunken eyes, and bearing every trait of the extremest physical depression. I felt choking with emotion to see him in this state—a photographic record of the horrors which he has outlived. I handed him a chair to sit down, and disappeared behind the hut to clear the gathering mist from my eyes. I wish my prospects of making him and myself comfortable here were a little more encouraging than they are; he and I are now at the mercy of a gang of the cannibal-slaves of slaves of Arab traders, who will utilize their opportunities of putting on every pressure they can bring to bear, to force us to part with our firearms and ammunition to them, and perhaps kill and eat us in the end—if we have any flesh left worth eating.

As the Zanzibaris came in I took each man's rifle from him, so that he could not sell it.

In the evening we celebrated the occasion by a banquet, which consisted of three fowls. Unfortunately, we cannot look forward to many such in our present position.

Nov. 5.—Jephson separated the sections of the boat; he could not, however, get the men to follow him and bring up the pieces to the village. On the path to the Ituri he found the deserter, Hateb Wadi Balyuzi in a dying state. He took his rifle, but could not find his load anywhere.

We cannot get anything to eat from these wretched Arabs. I fell in most of the men who are now with us, and selected those who were able to walk, to go on with Jephson, as it is certain death for them to remain here. They would be starved, or, perhaps, eaten by these savages.

They then started, and went to where the boat was at the river. The sections were hauled up for some distance on the bank, and carefully secured away from the water. The oars, bolts, india-rubber, and other appendages, were then brought up to my hut.

My donkey was severely wounded last night by a barbed arrow which penetrated the flesh to a depth of several inches; I was obliged to cut it out, with the surrounding flesh in which it was entangled.

Nov. 6.—We held another shauri about the possibility of finding food. We are receiving none from these people. The chief, Ismailia, says that he is feeding Nelson and myself at his own expense, and that Mr. Stanley had made no arrangements for us. He refuses to give anything to our servants; and will not give us a good hut to live in. Jephson is making arrangements to start in the morning. He has given me the following letter.

"DEAR JEPHSON,

"Say to Parke that it would be advisable to take the main springs out of every rifle, and conceal the springs very carefully among his own personal effects, so that if any unpleasantness occurred the rifles could not be used against us, and the ammunition would not be so valuable to them. But it should be done secretly.

"STANLEY."

Nov. 7.—Jephson left this morning with forty-eight men; leaving with me the twenty-four sick, and our three boys. The men were brought off much more easily than we had anticipated. He went ahead, and I urged on the rear, till they had got clear of the camp. Seven of my former twenty-nine

invalids, who had gained strength by the rest obtained here, were among the number who marched with him. I also wrote to Mr. Stanley,* telling him how difficult it was for Nelson and myself to get food from the Manyuema, and asking him to accede to Nelson's request—to send us authority to expend up to two bales of cloth, for which we would pay £50—this would enable us to provide for ourselves and our boys. I knew that Mr. Stanley had no cloth with him; but if he would promise to give us the bales when brought up by the rear column, the chiefs would take our written agreement. I also pointed out—what was indeed, but too evident—that Nelson required nourishing food after his long term of starvation. I sent a full list of all the rifles and impedimenta which remain here; these amount to 116 loads, including the boat sections, which are at the river side, as I am unable to have them carried up to camp.

I walked around with the chief to-day, who offered us another hut, which we agreed to take when cleaned out. Nelson bought a chicken, which gave us a dinner. We can never leave our things, so that but one of us can go away at a time; for these Manyuema are evidently bent on relieving us of some of the rifles, &c., &c. We are constantly being asked to go and shoot an elephant in the plantation; and other various little dodges are tried to decoy us away from our things. Several small articles have already been stolen by these detestable men: they put their arms through the bars of the back door of the hut, and abstract what they can reach.

Nov. 8.—Last night, there was a deliberate attempt made to burn down our hut, in which was stored all our arms and ammunition, &c. Fortunately, Nelson, who is always awake, saw the flames, and heard the crackling of the straw and wood as they burned. He jumped up at once and roused us. In an instant, ourselves and our boys were hard at work, endeavouring to combat the destruction which threatened to overwhelm us. The scanty supply of water which was habitually kept here did not prove a very efficient remedy. After some time, having pulled down the gable-end of the hut, we managed to put out the fire. The hut had been fired in three different places on the straw roof; fortunately, but one place had blazed up; otherwise the ammuni-

* In Darkest Africa, vol. i. p. 264.

tion and all the paraphernalia of our part of the Expedition would have gone in the conflagration. We found the lighted torch, which had been used by the incendiary, and thrown away afterwards.

When Ismailia came in the morning, we showed him where a considerable part of the hut was burnt down, and also produced the torch which had been employed. He wore a face of extreme innocence, and looked as if lost in astonishment; but there was no doubt in our minds that it was done by the Manyuema (and perhaps at his own instigation) for the purpose of seizing all our things during the ensuing confusion. He said that it was done by our own men, the Zanzibaris; perhaps they assisted, for when we shouted for help to put out the fire not a man came, although they were within easy hearing distance. That it was a premeditated attack upon us there can be no doubt whatever.

When called by Nelson at the outbreak of the fire, and before I was thoroughly awake, my first impulse was to chuck my blanket into the bush, for if I had left it where I was lying, I would not have seen it again. When everything was re-arranged to-day, I had my tent pitched, and had all arms, boxes, &c., carried into it, and stored up there. I will, in future, sleep in the tent, and Nelson in the hut; with our respective revolvers for sole company.

My donkey was severely speared last night, as he stood just outside my tent.

Nov. 9.—Some days ago, Ismailia asked me to give him a box; so I promised him that I would do what I could for him in that way. Accordingly, last night I sent him one of Fortnum, Mason & Co.'s (Piccadilly) provision boxes. He returned it, with an indignant message that it was not good enough. There was no appeal against this judgment, as the chiefs have a very effective way of asserting themselves, *i.e.*, withholding our supply of food till they get what they want. Of course, then, I was obliged to give him a better one to-day; so I emptied a medicine chest, and presented it to him. This pleased him because it was coloured, and had a lock and key. N.B. It means our very existence to keep on terms with these relentless ruffians.

Alufan, one of our Zanzibaris, died of starvation to-day. Mr. Stanley has arranged that the healthy men—*i.e.*, those who

MANYUEMA SETTING FIRE TO OUR HUT CONTAINING AMMUNITION, AT IPOTO.

are capable of working—are to be fed; but those who are sick are to get nothing whatever if they are unable to work. This is Ismailia's version.

Last night, I almost caught a thief, who had two plates and a rifle half out of the door. I counted the rifles to-day, and find my number lessened by two: fifty-nine instead of sixty-one.

Yesterday, a man named Hari, formerly of Nelson's company, deserted from Jephson's party. We captured him on his return. He had no rifle with him. We intended sending him on with Uledi, who has not yet returned from foraging; but he got clear of us this morning, and bolted.

Nov. 10.—Last night when we were feeding in front of my tent—but ten yards from the latter—a thief stole a box of Remington ammunition from the inside! We are obliged to sleep on top of our ammunition stores; we cannot effectually guard them from the thieves otherwise.

At 4 P.M. Uledi and six of the boat's crew returned, saying that they could find no food. We gave them twenty rounds of ammunition each, to protect themselves on their march after Jephson. I also utilised some loose rounds of ammunition left by Jephson, in purchasing a little Indian corn for them.

Nov. 11.—Uledi left early this morning, with seven men and the deserter (Hari) who had surrendered. In the afternoon, Sangarameni returned from a raiding excursion, and brought with him plenty of chickens, with about a dozen tusks of ivory, weighing between sixty and seventy pounds each. Late in the day he paid us a visit, and gave us two fowls. This is the first present we have received from the chiefs; we are now living on what we buy. Nelson has a little box of camphorated chalk, small quantities of which we deal out in exchange for food. Like all Arabs, these people are fond of powerful odours. Had it not been for this racial peculiarity we would have nothing to eat, excepting these two chickens, which will probably last us for some days. Sometimes I manage to get a head of corn, or a cup of beans, for medical attendance. If the urgency of the case (my prognosis depends on the stage of our hunger) demands such important remedies as inhalation of ammon. carb., an extra fee is expected. I do hope and pray that this ammonia of mine will keep up its strength; it is one of the most important barriers between us and starvation.

Nov. 12.—About luncheon time, we returned Sangarameni's visit of yesterday. While with him he asked us to sit down and partake of the midday meal of curried chicken and rice. It was very good; but as eight or ten savages were eating out of the same dish with their hands, the display was rather calculated to blunt the appetite a little. All the same, however, we both ate freely; for hunger is not over-nice, and serves to dissipate silly prejudices.

Like all good Mohammedans, these people always wash their feet, hands, and mouths before eating a meal; I wish the friction would remove some of their peculiar morality.

"The prince of darkness is a gentleman; Modo he's called, and Mahu."

I have read the opinion of some commentator who makes these names corruptions of "Mohammed": if this piece of philology be accurate, I consider that the Shakespearian view of the "prophet" is very fairly represented by his followers here.

Afterwards we went to meet Khamisi, the head chief, who was returning from a raid in the southerly direction. He had collected a great number of chickens and goats, also ten tusks of ivory. Several shots were fired as a salute, to receive him when he entered the village. After the usual exchange of salaams, he presented us with two chickens. Experience has taught us that there is nothing like being conspicuously to the front with salaam-sauce when these foraging expeditions return. Shortly afterwards, some under-chiefs presented me with two chickens and some bananas. Unfortunately, however, a present, as I have found elsewhere in Africa, always means something better in return.

Nov. 13.—Nelson and I paid an official visit to the chiefs, for the purpose of endeavouring to arrange about the food question for ourselves and our men in the future. The three chiefs, Khamisi, Ismailia, and Sangarameni, with some smaller fry, were present at the interview. Khamisi, who had had the agreement locked up, now produced the document, which was in Mr. Stanley's handwriting. There was also a second, in Arabic characters, which appeared with the one in English. In the former we read a distinct clause that all the sick and the officers (Nelson and myself) who were left here were to be provisioned during the stay. The chiefs, when

I read this, said that Stanley lied, as he had never mentioned to them that we officers were to be provisioned. I was present in Mr. Stanley's tent when Ismailia promised faithfully to feed ourselves and our men, according to Mr. Stanley's agreement. This is an example of their deceitful, unreliable, and cruel natures. He admitted, however, that Mr. Stanley had said that I would attend to their sick, and get provisions in lieu of my services; and that Nelson was to have food in exchange for presents which he would make them. This is also false. He added that they had very little food now. We told them that we had written to Mr. Stanley to grant us a supply of cloth, and that we would give them twenty-nine rifles and twelve boxes of ammunition to keep, until redeemed by the cloth. To this they would not, of course, agree. Just before the shauri had commenced, Nelson had made a present of a gold chain (value £17) to Khamisi, a pair of field-glasses (£9 9*s.*) to Sangarameni, and a sword (£7) to Ismailia. This offhand generosity was intended to soften their stony hearts, and appeal to their gratitude—if they had any. Those expensive seeds we soon found to have fallen on a very unproductive soil.

Nov. 14.—Ismailia started this morning on a tour amongst the Washenzi. Each of the three chiefs had a third of the surrounding country allotted to him for his maraudings. They pillage the native villages in search of plunder, and take whole families as slaves. Indeed, *ivory-trade* and *slave-trade* are synonymous terms in Africa; for the captives are returned in exchange for ivory, only to be recaptured—to carry the same ivory to the coast.

We purchased a little Indian corn to-day.

Nov. 15.—This place is filled with lizards, lice, and all sorts of disagreeable insects. All kinds of pediculi abound, but especially the *pediculus vestimenti* (*vel corporis*). These pests multiply with the greatest rapidity, the ova being deposited on the fibres of the garments, and hatched in five days. We dread going to bed, as the first hour is always spent in scratching; blood is always drawn here and there by this operation from the torn summits of small pimples. Every ulcer and excoriation, however small, when healed, leaves a darkened spot—from excessive deposit of pigment.

My donkey is also a martyr to the *morbus pediculosus*. Khamisi is very poorly to-day. It looks like commencing

pneumonia. I pay him the most unwearying attention, and give him an occasional whiff from the mysterious ammon. carb. bottle—a panacea for all diseases under the equatorial sun! I keep up this most important treatment in the anxious anticipation of getting a chicken for my trouble.

The chiefs and their satellites are continually paying us visits, invariably coveting everything they see, and trying if they can by any possible means manage to appropriate it. They are the most shamelessly obstinate beggars I have ever met.

Nov. 16.—Two Zanzibaris were brought up for stealing corn. We were obliged to punish them, although they are really driven to steal by these cruel Manyuema, who will not give them food. So the unhappy culprits were chastised by very sympathetic hands.

My boy Muftah has not come to work to-day, on the pretence of being ill. In reality he wishes to leave me, and work for the Manyuema wretches; as they give him food to entice him away from me, and I am only able to give him *mboga* (leaves of the pepper-plant, and the green tops of a peculiar plant not unlike a potato-stalk). This latter is very abundant here, and grows best on mounds of refuse and filth. These, when pounded up with a mushroom-like fungus, found about the roots of dead trees, make a tolerably palatable spinach. This elementary diet is what Nelson and myself mostly exist upon. Nelson's boys, "Osmani" and "Feragi," stick to him; but one of them is an invalid and unable to do much.

I shot a hawk this morning, which kept us going for the day.

Nov. 17.—We have frequently asked the chiefs to give us some ground to prepare for planting corn and beans; but they always put it off with some trivial excuse. I have tried over and over again to get a man to accompany me into the forest, to get a shot at a pig; and also to go with me to the river (which is three hours' distance), in order to see if the sections of the boat are all right and safe where they were left. I have, up to the present, been unable to get one from the chiefs; who make themselves as disagreeable as possible. Their object in giving us little or no food is to starve us into parting with our rifles and ammunition; which we are determined not to do—at least, till all our own belongings go first, and all other possible

resources have failed; for the ammunition is the most valuable thing we have got.

Nov. 18.—Ismailia the chief has returned from an expedition with his ruga-ruga (*i.e.* banditti). Also, another party which left on the 28th of October, has turned up. They have brought back with them a number of slaves, goats, fowls, ten tusks of ivory (and many small pieces of the same article); also ivory horns, drums, and various native ornaments. Their approach was, as is the invariable custom on the return of a victorious plundering party, announced by a fusillade from the more responsible members of the community; while the others blow horns and make merry music, which answers in function to our "See, the conquering hero comes." If the ruga-ruga have not seized any ivory, there is no salute fired: a damping silence prevails throughout the party during the approach of the disappointed adventurers.

This morning we received two cups of Indian corn flour from Sangarameni: a poor supply for four of us. So we exchanged a rifle for a goat.

Nov. 19.—No food whatever could we extract from the chiefs to-day. In the evening I sold my field-glasses for 100 heads of corn, to feed ourselves and our boys. I had previously taken the precaution of removing the two large lenses; which may come in useful in the lighting of a fire (or a pipe) when we get out of the forest, and have a chance of seeing the sun. My servant has now left me, as he can get more food from the Manyuema by working for them. I went for a shot, but got nothing. During my absence, however, Nelson was presented with one chicken and a little flour; this is very good feeding for to-day, but we never know where we shall get the next meal. Khamisi, the head chief, has now recovered from his illness; I was unremitting in my attentions to him: yet for all that he has not, up to the present, given any recognition of his appreciation.

This morning we sent to the chiefs for some food. They sent back word that they would give none, and that they would thrash the boy if he went down to them again. I have given up all hope of having my boy back again, as he has been fairly seduced away by the chiefs. In the course of the evening Sangarameni sent up a messenger to us, instructing us to send him down a present!

Nov. 21.—Last night and the previous one were both very wet. About ten minutes after the first premonitory signs there falls a perfect deluge of rain, accompanied by a tornado and immense sheets of lightning. About 3 A.M. yesterday morning a thief entered my tent, while I was asleep, and took off a box of ammunition; but on his way out he knocked over a tin box, which I had purposely placed at the doorway. On hearing the noise, I immediately seized my revolver and rushed out, just in time to save the box of ammunition, which the burglar had dropped on the path. He escaped, as I could not see him in the dark.

Nelson was very feverish last night. This morning his temperature was 103° F. I gave him some medicines; but have nothing to give him to eat, except *mboga* and popped corn (toasted). The chiefs, and many others, come to visit us: their real object in inflicting these attentions being to pry into our little surroundings, covet everything, and try to get all they can from us. They now come into our tents, and sit on our beds, leaving behind them legions of vermin as remembrancers of their visits. Surely our social life here is not a happy one.

Nov. 22.—We have now had no food whatever from the chiefs for the last three days. We are living entirely on mboga; in fact, we are grazing—living the life of Nebuchadnezzar. I only hope it will not last for seven years, for I am tired of it already. We have of course finished (aided by our two boys) the corn which I purchased for my field-glasses. Nelson got two cups of beans, for a pair of scissors; this is far below the market value. Osmani, who understands Arabic, says that he heard the chiefs tell the people to sell us little or nothing. The people certainly have ceased to come to sell us food as before. Nelson and I pitched the second tent this morning; we were unable to get help from the chiefs. The goat had a baby to-day, but our visions of porridge and milk have been cut short by the chiefs, who would not give any Indian meal. We sincerely hope that the donkey will keep until after Christmas.

Nelson is not improving; he is a mass of ulcers, and has to be suspended in a cord hammock during the greater part of the day, to relieve bed sores. He sometimes sleeps in the open, in his hammock. I could not have believed that such a

manly, well-built, athletic form could have been reduced to such a sickly-looking, infirm, decrepit skeleton.

Nov. 23.—I went for a shot, but got nothing. I then returned to a luncheon of bean soup. Nelson is an excellent cook; he boils a cupful of beans in a great quantity of water, then bruises them in a *khino* (a sort of wooden mortar), returns them to the water, and adds a few pepper pods. This is by no means a bad meal, as things go, for ourselves and our boys.

Very heavy rain fell to-day. Khamisi gave me a cup of beans for a little medicine case, suitable for holding needles. I asked him why the chiefs wanted to starve us, and he replied that Mr. Stanley had told a lie—that we were not to be fed—also that Nelson had offended Ismailia, by telling him that he always wanted whatever he saw in our tents. (This candid remark was quite true, as Ismailia is a thoroughly avaricious cur.) I was in fear of absolute starvation; so, pocketing my pride, I suggested that we should all be friends, to which praiseworthy sentiment Ismailia professed himself quite agreeable, and said that everything was "finished." After an interval of about fifteen minutes, Ismailia came up, shook hands, and said that all was friendly now.

Nelson sold a very handsome scarlet waistcoat, for which he received seven cups of meal from Khamisi. We shall very soon be reduced to bark-cloth and an ivory bangle.

CHAPTER VIII.

FURTHER EXPERIENCES AT IPOTO.

The Manyuema hear false news regarding three guides supplied to Mr. Stanley, whereby our lives are endangered—Letters to hand from Stanley and Jephson—Tactics of the chiefs—Troublesome vermin—My birthday—A substantial feast—"Wake" in memory of the three lost guides—Having no food, Nelson and I finish the remainder of the quinine and orange wine—Marked change in our appearance and general behaviour—Evening visits of the Manyuema to our tents—We hold a shauri with the chiefs regarding food supply—Theft of blankets and sleeping things from our tents—Punishment of the Zanzibari thieves—We open Emin Pasha's bales, and exchange the soiled goods for food—My medical fees paid in small food supplies—Sudden generosity of the chiefs—Nelson very feverish—Forest game and Arab crops—My boy Sherif steals some cartridges—Construction of a new village by the chiefs—Description of the huts—I am laid up with erysipelas—Dreadful condition of Nelson—Loss of our milch goat—Nelson operates on me—An offer of goats in return for rifles declined by us—Preparing food for Christmas—Arrival of Kilonga Longa's advance guard—My tent is besieged by an army of ants—Improvement in my condition—Dish made from pounded ants—Ismailia's philanthropic suggestion—Christmas Day spent in bed—Only eleven of our Zanzibaris alive—The comic side of our position—Khamisi comes to me to be doctored—Difficulty in milking our goat—Growth of our corn and beans—The chiefs still refuse us food—Kilonga Longa's arrival delayed.

Nov. 24.—Last night was the most unpleasant we have spent for some time. Late in the evening there was a great commotion in the village, and all the women set up a continuous howling (lu, lu). Presently one of our Zanzibari invalids (Muini) crawled up to us in the dark. This apparition whispered that we should sleep lightly, as he had overheard the Manyuema chiefs say that they would have their revenge on us, a report having reached them that Mr. Stanley had killed three of the guides whom he had brought with him, when leaving on the 27th ult. Knowing the barbarous ways of these people, and that under the circumstances, we were both perfectly certain of prolonged torture or being disposed of in some such horrible way, as their cry always is "Blood for blood!"—we made ourselves ready to die quickly rather

ZANZIBARI WARNING NELSON AND PARKE OF INTENDED ATTACK.

than suffer a lingering demise at the pleasure of our hosts. Nelson armed himself with all the strychnine in the medicine case, and I with my revolver. We took our Winchester repeaters, and retired into the bush, close to the tents; each watching his own tent, and silently awaiting the next scene of the tragedy. After some hours, the howling in the village ceased, and we returned from our places of concealment. We then immediately sent to Khamisi to inquire what was the matter. He sent back word that three of his men, whom he had sent as guides with Mr. Stanley, had been ill-treated by the Washenzi; but that the first report was that Mr. Stanley had killed them. This account comforted us, but we thought it advisable to remain on the alert all night. At 7 A.M. Ismailia and Sangarameni came to pay us a visit. They confirmed the report that the three guides had been killed by the Washenzi; as Mr. Stanley failed to make friends with the natives, who then shot arrows at them. The reports are conflicting and unreliable. The chief who accompanied Mr. Stanley arrives to-morrow, so that we hope to hear the truth.

Nov. 25.—Ismailia sent us three cups of meal yesterday. We calculate that Mr. Stanley is by this time somewhere not far from the lake. The chief guide arrived last night; and brought letters from Stanley and Jephson, dated 17th November. They had reached a country with plenty of food, but had not yet heard of the grass lands. Mr. Stanley sent a promissory note for the two bales of cloth, and said that he did not see how we are to be relieved if the cloth never arrives; recommending us to be patient, and put up with our trouble as best we could; for the Manyuema are wicked and desperate people. He added that we should take the main springs out of all the rifles, so that they could not be used against us.

[In Jephson's letter to Nelson he mentioned that Mr. Stanley desired me to give up the valuable watch and chain to Ismailia. This I accordingly did. He frequently complained to me afterwards that the watch was "*dead*."]

We interviewed the chiefs on the subject of sending for the boxes, which still remain buried at Nelson's starvation camp. We offered four yards of calico per load for their carriage to the village. They replied that they would hold a shauri among themselves on the matter. Later on the chiefs did return to

pay us a visit; they were all in excellent spirits, and, apparently, well disposed. Ismailia commenced by asking us to give him a rifle in exchange for a goat, and they all expressed their desire that we should sell them some of our cartridges. This indicates their tendency: they are running short of ammunition, and they would on the least provocation murder us for the sake of the ammunition we have got with us. We are completely at their mercy, and their tactics in attempting to starve us by withholding food form a very excellent plan to drive us to sell our rifles and ammunition.

There was great excitement in the village last night; about 100 shots were fired as a fantasia. Nelson and myself were fearfully itchy; no peace for us after sunset, when the whole place seems to become a seething mass of vermin of all kinds.

Nov. 26.—I have taken Sherif as a servant. I only hope that the Manyuema chiefs will not induce him to desert me as they did in the case of Muftah.

Nov. 27.—The anniversary of my birthday! Surroundings not so jubilant, perhaps, as one could wish, but I have been trying to make the best of it. Nelson gave one of his boxes in exchange for a goat, and Sangarameni actually went so far as to send me three cups of Indian meal; so that we are celebrating the occasion with a substantial feast!

The vermin must have made up their mind to have their turn first, for they assembled *en masse* and *en fête* last night. I feel certain that the experience of the past six months has taken away at least five years from my short span.

Nov. 28.—There is to be a big feed to-night in the village, to the memory of the three lost guides, who fell victims to the wrath of the Washenzi. A veritable "wake." We did not kill Nelson's goat, as was originally intended, hoping for an invitation to the feast, or (better still) that the excitement of the occasion might inspire them to send us some food for ourselves. The operation of pounding corn into meal has been going on vigorously everywhere throughout the village to-day.

I am now in my thirty-first year. Every succeeding year passes more rapidly than its predecessor. I wonder what my "expectation of life" is worth in my present position!

I find that the most comfortable costume to adopt here is a

towel girded round the waist. Most of the inhabitants of the village, both men and women, wear nothing at all, so that we see a great deal of each other.

No invitation to the banquet. It passed off quietly, as these people possess no intoxicating liquor, and no society journals to say what they wore the night before. I will go off to-night, and lie in ambush till morning, to try and get a shot at a pig, as they always come into the corn-fields in the early morning.

Nov. 29.—I returned to Nelson about 6.30 A.M., having failed to get a shot, after my long night's watching. We had now nothing for breakfast, so we sent to the chiefs for food; they replied that they had nothing for us till to-morrow. Accordingly, we held a consultation, and decided to finish what remained of the quinine and orange-wine—as a prophylactic against the fevers of the present day—and then exchange the empty bottle for some corn. Undeterred by the large quantity of medicine in the bottle, and acting on the principle that if a small quantity is so good, more should be better, we divided the contents fairly between us, and drank it. After a short time we noticed that our conversational powers had developed to a pitch that we had not realised since we became denizens of the Manyuema settlement, and a marked change appeared to arise in our appearance and general behaviour. We also estimated much more highly the chances of the ultimate success of the Emin Pasha Relief Expedition, and felt quite inspired by our own heroism in taking so important a share therein; we even saw favourable visions of our deliverance from the talons of the Arab harpies, and of a possible future escape from the African forest to the centres of European civilisation. Presently the current of ideas became less rapid, and we kept repeating the same thing over again once or twice; and we saw the advisability of going to bed, of course. I had been out all night, and wanted sleep very much. We acted on this idea, finding, as we moved towards our couches, that a considerable practical difficulty had arisen in keeping the centre of gravity within the base of support. We rapidly subsided into a deep sleep, from which we awoke, with marked fuzziness of ideas, to realise that we had passed through a process of inebriation. No unpleasant consequences, however, followed; we had not been guilty of disorderly conduct, and there were no costs to pay.

We now sent down our empty bottle for corn, as the chiefs had sent us nothing.

Nov. 30.—No food was sent by the chiefs to-day. So we killed our goat, and cooked the liver and kidneys: they were delicious; but we felt the want of something to eat with the meat—some salt, corn, or potatoes (sweet). We have dried some goat meat by placing strips of the flesh on a changer (wooden grating) over a smoky fire, under the sun. (The weather is so hot here, that meat, if neglected, goes bad in one day and a night.)

I got two cups of Indian meal to-day—a mark of recognition of my services from a grateful patient. I expect that this is the only source of food left us in the future, as the chiefs obstinately continue to refuse giving us anything.

Nelson has made friends with a few of these people, and pays them an occasional visit, always about meal-times, when they generally offer him a head of Indian corn. Every evening, when the Manyuema have finished work, they come and sit around our tents; sometimes they come inside, and handle everything. They are a fearful nuisance; but it would be simple madness to hurt their feelings by objecting to their attentions. We do not understand their language, and *vice versâ;* so that we are constantly abusing each other face to face with impunity. We hold animated conversations!

Dec. 1.—Nelson and myself had a shauri with the chiefs relative to the important question of feeding us, and receiving in return the two extra bales of cloth, as Mr. Stanley had guaranteed. Now, however, to our horror, they say that there is no food whatever to be got on any terms; still they always have some to sell. Accordingly, the fact is too plain that they want to starve us, so that they may drive us to sell the ammunition and rifles. Ismailia sent us three cups of meal to-day; this must do for us till some more can be got.

Nelson's temperature is very high to-day; he now has remittent fever. Poor fellow! What surroundings to struggle with!

Dec. 2.—I remained on the watch all night, trying to get a shot at a pig or antelope, but was unsuccessful. Our blankets will be the next items to go for eatables. Ourselves and our boys are back again on mboga diet. Poor Nelson is still very seedy. He asked Ismailia for some beans to plant:

he gave him two handfuls, which we planted in front of the tents.

DEC. 3.—To-day I again asked Ismailia when he could send for the boxes in Nelson's starvation camp. He told me that the three chiefs (Khamisi, Sangarameni, and himself) were building houses, and, in consequence, were unable to spare carriers at present; he would let us know when they would be forthcoming. I intend, of course, to accompany them myself.

Nelson sold a pair of pyjamas for corn, which we planted close to our tents. For a long time we have been intending to perpetrate this piece of husbandry, but we always ate our grain instead of planting it.

DEC. 4.—I took my boy, Sherif, with rifle and shot-gun, and walked to the river (three hours' distance) to see the boat, which I found all right as to its twelve sections, and stowed in a safe position well away from the river. I shot a small bird and a lemur; the latter smelt very "gamey." We passed the skeleton of Hateb Wadi Balyuzi on the path. On our return we heard the dwarfs shrieking and yelling in the forest, driving the game up against their huge game-nets, fifty or sixty yards in length, and then spearing and shooting arrows at the animals which they had hemmed in, to sell for grain to the Wasongora. We made very little delay to observe their sporting customs.

DEC. 5.—Last night, when Nelson and myself returned to our tents, the former discovered that his two blankets, with the sleeping things, and a rope, had been stolen from his tent, although we had been sitting but ten yards off, and my boy Sherif had been on sentry at the door all the time. Perhaps the boy slept; but he affirmed most strongly that he neither saw nor heard any person enter the tent all the time. The thief had evidently got under the tent from behind. Nelson immediately reported the matter to the chiefs, the result of which was that they brought up this morning one of our Zanzibaris, Saraboko, who had brought them one blanket and the sleeping things. He had gone to Sangarameni to offer to sell them, and was discovered in this way. He has confessed to having sold the ammunition and rifle to the Manyuema.

DEC. 6.—Saraboko came this morning, and informed us that

it was Baraka, another of our Zanzibaris, who had stolen one of the blankets and the rope. He also denied the stealing of the ammunition and the rifle, to which he had confessed yesterday.

Last night, as we were going to bed, the three chiefs came to us, bringing one of the Zanzibaris, named Mabruki, who had, they said, stolen rice from them. We cannot well punish the poor wretch; as he is driven to theft by these people witholding food.

We went to the chiefs to-day, and asked them if we could go down to their hut at meal-time, and feed out of the same dish with them, or send a messenger to them for a ration of food from their meal. They said "yes." So we went down at their usual meal-time (déjeûner, or "terekeso") but found the houses of the chiefs all shut up. They had actually gone to feed in some secluded spot where we could not find them!

I received from Sangarameni three cups of beans—my fee for medical attendance and most excellent professional advice. We opened Emin Pasha's bales to-day, and sold two vests; as our own clothes were all gone. Most of Emin's things are so damaged by the wet that they are not worth carrying.

DEC. 7.—I was called up last night to see the wife of one of the chiefs, who was taken ill. She was greatly relieved by the treatment, and is very much better this morning; she had what is generally known as "a very good time." Khamisi brought us three cups of meal last night. This generosity is absolutely unprecedented. I *do* wonder what he wants.

Nelson and I weighed ourselves to-day. I weighed 155 lbs.: Nelson, who is still in a very reduced condition, weighed but 135 lbs. We sent for food to-day. Ismailia sent a cup and a half of beans. We exchanged a pair of Mr. Stanley's drawers, which we found among our things, for some *mohindi* (Indian corn) from Khamisi.

DEC. 8.—To-day we sent for food, as arranged with the chiefs. Their suggestion was, that we might send at their meal-time for some of their cooked food. However, we failed to get any to-day. Sangarameni relieved me, by giving me some beans for professional advice. *Medical fees are moderate here*, in my experience.

I sold a coat and pair of trousers from Emin's things: the price was thirty heads of Indian corn. *Food is expensive*

here. We are, however, fortunate in being able to get plenty of native tobacco, which helps to make the burden of existence more tolerable. We also while away the time by reading: we have a good stock of light literature to drown *ennui* with. To-day, I finished Edwin Arnold's "Light of Asia," which I enjoyed very much.

Nelson has now been here thirty-five days. *Tempus fugit.*

Our milch goat is running dry: no wonder! as there are her own kid, Nelson and myself, with our two boys, continually at her, which must prove a formidable drain on her system.

Dec. 9.—I cannot make out what the chiefs want: they have developed a spasmodic attack of generosity. I grow more uneasy—

. . . . timeo Danaos et dona ferentes.

—but I may be unjust. Ismailia came to-day with three fishes and some Indian flour (or meal): enough for a substantial dinner for us. We also made a good bargain to-day: as I got seventy heads of Indian corn, in exchange for a merino vest of Emin's. An expedition has evidently returned —a suffari (or ruga-ruga) laden with much ivory—as there is a great deal of firing of guns in the village, which is a sure indication.

Our chief (I mean Mr. Stanley) must have heard of Emin Pasha by this time, as the latter will have received despatches from Zanzibar, and have made some preparations for the approach of his friends.

Dec. 10.—Nelson was very feverish last night: temp. 104° F., with other bad symptoms. He sleeps very badly, and has, of course, little or no appetite for any nourishment. Under the circumstances, it might be said that this is providential. Very heavy rain fell last night.

Our lives here are made a continuous torment by the shoals of flies, fleas, lice, ants, and all sorts of abominable creeping things—the variety appears endless. It is rather annoying to reflect that if we had here only a moderate stock of the very worst description of calico, we could have a market every morning, and live all day "like fighting cocks." As it is, we have nothing to give; and, as a necessary consequence, nothing to receive, from these people.

Dec. 11.—To-day Ismailia brought us some cooked food

for the first time, which we ate with greedy relish. The *menu* consisted of rice and goat.

Nelson is much improved; the fever has left him, and he, accordingly, feels easy and comparatively comfortable. I made the remainder of the rifles (five in number) unserviceable. I could not, however, take out more than two of the springs, as we have no screw-driver.

DEC. 12.—I went out for a shot to-day, but got none. The Manyuema are constantly discharging their tower muskets, in order to frighten off elephants and other trespassers from their crops; this practice keeps all game at a respectful distance from us. Besides, walking is very difficult here, as the garden is a forest-clearing, so that one is sometimes walking along the trunks of fallen trees at a height of fifteen or twenty feet from the ground; at other times among a dense under-growth, through which it is very difficult to force one's way. So the game is not worth the candle, as sprains and strains are very common.

Nelson never slept a wink last night, although he had two grains of opium to quiet his nerves. Accordingly he is very far from well, although his fever has left him for the present; and he is extremely irritable.

I discovered that my boy Sherif has been stealing the Remington cartridges; but I cannot do more than threaten him. If I use any violence, he goes straight off to the Manyuema. I have opened most of the boxes of ammunition, and dried the cartridges, which had often been submerged on the march, so that they were thoroughly saturated.

DEC. 13.—Went out shooting to-day, but got nothing. I sold some more items from Emin Pasha's damaged kit, for food for ourselves and our boys. Poor Nelson is very nervous and irritable; the direct result of the weakness produced by his illness, and aggravated by starvation and want of sleep.

Sangarameni gave us six cups of rice. One never gets to sleep here till daybreak; it is one long, continuous scratch, scratch: these detestable vermin!

DEC. 14.—The chiefs have commenced to construct a new village at the opposite end of the chamba. *Even they* cannot bear the filth and stench of the present position any longer. They commenced building their own huts first; they are constructing them of boards, which they make by splitting the cotton tree into different lengths, with a thatched roof o

leaves, and a verandah—about fifteen yards in length, by five yards in breadth, and ten in height. This structure includes a granary, to store away rice and corn. In the huts which they have been living in, there are circular bins in the centre, in which they store their grain. The frame-work of most of the new huts is made of poles of different sizes, with rods interwoven, and the interstices filled with earth. There is also a strong boma (zareeba) of interwoven saplings about six feet high, surrounding the back of the house, where the women bruise (twanga) the corn, and grind it with stones. A latrine is included, consisting of the usual Arab items: a deep pit dug in the ground, an external covering, a square foot of permanently open orifice on the top. There is also the harem enclosure.

Nelson, poor chap, is still very seedy. He often talks about never getting home, which helps to enliven the surroundings.

Dec. 15.—Spent the day in bed, as I am unable to walk on account of enlarged glands in the upper part of the front of my left thigh. I developed these decorations from my over-walking and jumping in search of a shot the other day. I calculate that it will lay me up for a month, and that I will have to use the knife on myself. An inspiring anticipation, surely, under my circumstances: Nelson not being able to walk a couple of hundred yards, for a shot—or for anything else. The poor fellow is nothing but skin and bone, and the skin is broken in several places, especially over the back (sacrum) and hips (trochanters), where he has large bed-sores.

Dec. 16.—Dreadful news to-day; our milch goat has been lost; or, to state the fact more correctly, has been stolen. This is a terrible business for us—we will now have but rice and porridge, and I will be confined to bed for a long time to come, as there is very great inflammatory swelling about my left hip and thigh, with a decidedly erysipelatous-looking blush, and an accompanying temperature of 100° F. I am sure I've got blood-poisoning, from the continual handling of the ulcers from which so many of our men are suffering; and the condition is necessarily aggravated by the results of the wretched dieting to which I have been so long obliged to accommodate myself.

A most lovely sunset this evening! One would like to be able to enjoy it, but the surroundings are rather against the full appreciation of æsthetic effects.

Dec. 17.—Nelson lies in his hammock during the greater

part of the day. He cannot lie on any hard surface, on account of his bed-sores. He now comes to see me, instead of my going to see him. I am worse to-day; the inflammation is spreading up the walls of the abdomen, and down the left thigh, and the scarlet hue of the surface has been exchanged for a deep livid tint. The surface pits on pressure, and there is intense pain. No position is comfortable for me. I injected some cocaine, with the intention of making an incision to relieve the extreme tension; but I postponed (or rather "funked") the latter performance till to-morrow.

No news of our goat. I tried to-day to sell my shot-gun (value £25) for a goat, but could not get one of my accommodating neighbours to make the exchange.

Three Manyuema were killed by natives yesterday.

DEC. 18.—I have now been here exactly two months, and must say that I sincerely hope no other white man will ever be left among these barbarous Manyuema for so long a time. They have plenty of food, but will not give us a share, although we have now sold them everything that we can possibly dispense with.

DEC. 19.—Nelson is very weak—so far gone, indeed, that he will certainly die if he is attacked by any acute disease, as he has no strength left to bear up against it, and there is no nourishment to be procured for him by any means I know of. It is really heartrending to look on at his declining condition, fading as he is day by day; so much so, that although I am glad to have his company, I would, from all other considerations, much rather be alone.

A goat, slightly smoked, was brought to us to-day. I fully believe it is our own which they treated in this way. A suffari came in, and Sangarameni brought us a few cups of corn. I gave myself a large injection of cocaine, as a local anæsthetic, and Nelson operated on me. He made an incision about two inches in length, and two in depth: then quickly disappeared from my tent. A very profuse hæmorrhage followed, which weakened me considerably. I was to have had two incisions, but the one he gave me was as much as I cared to experience. Poor fellow! he used to be called by the men "Panda-la-mwana," the Swahili term meaning "big man," on account of his size and strength; and now he is reduced to a walking skeleton of 135 lbs. weight.

DEC. 20.—I have been greatly relieved by the operation. I got a few snatches of sleep last night, but always awoke with a start at the least noise. I am quite unstrung by my anxious fears about the ammunition and rifles; we are so badly able to watch them now, or prevent their being stolen. We were obliged to-day to give a Remington rifle to a chief for a goat, so as to have some meat for Christmas. I also sold one of Emin's flannel vests. At this rate we can hold out but for a month or so; and Mr. Stanley writes to say that we may be relieved after three months! Nelson is so ill from fever that he could not retain his breakfast this morning.

DEC. 21.—I got eight heads of corn for professional services this morning. The chiefs paid us a visit, and arranged to give us two milch goats, and a third, which was to be eaten, at the rate of a rifle each. The latter soon arrived—a skeleton! The second chief then announced by message that his female goat was *enceinte*, under which circumstances he expects thirty cartridges extra. The third chief sent us a *male* goat, representing his idea of keeping his contract for a milch one. So we did not give our rifles.

We are now collecting our nice things for Christmas. To-day we bought a lot of insects—they look half bee and half grub—which are found in the soil here, and are said to be a luxury.

DEC. 22.—There is great excitement throughout the village to-day. Guns are fired off in all directions, to announce the arrival of the advance guard of Kilonga Longa, who is the head chief of this and several similar settlements of ivory-hunters in the depths of the African continent. This "swell" is himself under the command of Abed Bin Salim, an Arab of great importance in the trade. His men say that Kilonga Longa is still ten days off.

Last night, I had to go out of my tent and describe for myself a fiery circle, within which I lay to protect myself from the ants. These brutes had besieged me in my tent, and ended by expelling me. Within the zone of combustion I was, of course, safe enough, as they frizzled up when they approached the red-hot embers. Their business habits are certainly most systematic; they travel (in myriads) in long array, arranged about eighty abreast. I have seen such a column pass through my tent—taking complete possession—

for twenty-four successive hours. As they travel very fast, I am sure such a column was several miles in length. They have their generals and staff, scouts, commissariat, transport, and intelligence departments, &c., &c.; and, even without the employment of red tape, they make a most formidable enemy, as you learn to your cost when you have disturbed the harmony of their progress.

DEC. 23.—I am much better to-day, although not yet able to walk more than five or ten yards without resting. The erysipelas still lingers, and the temperature remains high. There is great redness and swelling, with extreme tension. Nelson gave me a real good cut—and the consequent loss of blood made me feel quite faint. I do hope that we may be able to come to terms with Kilonga Longa about food; for I have by this time learned to think, with many others, that the stomach really governs the world after all.

DEC. 24.—The pain from my erysipelas was very intense to-day; so bad that I was unable to get out of bed. We bought some "*nousoir*," made from pounded ants. These animals are caught by the artifice of making a hole close to an ant-heap, placing a little fire in it, and then covering it up. The ants are attracted by the heat; and, in the morning they are collected, pounded in a *khino*, and cooked. The mess so prepared eats like *caviare*. The white ants make the more palatable viand.

Two of the chiefs have gone with food to meet Kilonga Longa. Last night Ismailia came and told in a confidential way that we had better buy sufficient food for ten days, as Kilonga Longa's people would eat up everything when they arrived. This philanthropic suggestion was, of course, made for the purpose of drawing us into buying food from him. However, we did not mind him, as we have secured a goat, some beans, and some corn, for to-morrow's feast: which both of us purpose partaking in bed, as neither is in a fit state to rise or move about.

Omar, one of our Zanzibaris, came to me this evening with a great spear-wound in his back, from which he must die. Poor lad! he was caught stealing food, and a spear-head was driven straight into him.

DEC. 25.—I spent the day in bed, lying on our ammunition boxes. My temperature was 102°, and my erysipelas worse.

The latter is now extending down the left leg. I am greatly afraid that this thing will keep me on my back for a long time. Nelson, I am glad to say, is now better. He superintended the dinner, which consisted of goat and rice. I wish all my friends at home a happier Christmas than I myself can enjoy.

DEC. 26.—My erysipelas came to a stand-still during last night; I keep fomenting it all day. Nelson is very attentive to me, but whenever he comes in he begins scratching, and the example cannot be resisted. Some Manyuema came to us for shirts to-day, so we opened Emin's bale again, and took out four, which went for comparatively little food. Those men who did not get a shirt declared that they would stab our boys on their way for water. They have shown themselves, to our knowledge, quite capable of such deeds of revenge; for the chief Ismailia cut off a slave girl's hand at the wrist only a few days ago, for some trivial offence.

Another month, and all our Zanzibaris will be dead from starvation! Twelve have disappeared already of the twenty-seven we were left, and I feel certain that some of them have been eaten by the villagers; for it is not uncommon to find in the forest the ashes of a dead fire, with human bones close by. We have been saved up to the present from a similar fate by judicious disposal of our clothes and rifles, with Emin's kit, shirts, drawers, buttons, and tarboush. Peradventure when Kilonga Longa comes, he may look upon his white servants with an eye of favour. I will hope. Is it not possible that one just man may be found, even in an Arab settlement? Kilonga Longa has been accustomed to white men. I can only trust that they made a favourable impression on him.

DEC. 27.—Our position here is not without its comic side, for we are all cripples—our two boys included; and are in the worst possible humour with our surroundings, aggravated, of course, by weakness, fever, dirt, starvation, and the detestable Manyuema—who push themselves into our tents without asking our leave, squat on our beds, and break the tenth commandment in presence of every article of our property. We purchased bananas to-day, for pins and needles. The Manyuema make a very serviceable grass cloth which they dye with a variety of colours, and sew with grass thread and a needle made of rattan cane, with eye complete. The chiefs have

ordered us to give up our hut to Kilonga Longa's people: it has been our only protection during the burning heat of the day.

DEC. 28.—Another man, Bin Ali Kombo, died to-day, of starvation. Khamisi, the head chief, came to me this morning complaining of sickness and wanting to be doctored, so I thought I would "take it out of him" by keeping the line of communication open; but I confess that I am growing a little anxious now, as he has not been able to find his legs since.

Another serio-comic difficulty in our way: we find the milking of our goat a terrible task—to say the least of it. She is very strong, and we are all cripples: so she leads all five of us a merry dance, whenever we try to obtain some of the innocent beverage. What makes matters worse is, that she seems to have the power of retaining her milk, in spite of most strenuous exertions, after we have succeeded in bringing her to a stand-still.

DEC. 29.—I am now able to move a little; so I had a bath this morning—the first for a good number of days. Nelson, I am glad to say, is also improving. The beans and corn which we planted have now grown to a foot in height. In this country the corn is ready to be used for food within three months from the date of sowing the seed: the beans are ripe in two months. The weeds grow most luxuriantly; and there is great trouble in keeping them down, which appears to be the great drawback in nature's beneficence.

The chiefs, Sangarameni and Makabolo, returned to-day: they went only as far as Nelson's camp. Ismailia continued his march to meet Kilonga Longa.

We are having the last of our rice to-night. We have still, however, a cup of beans left for to-morrow. We are all improving, and are, consequently, in better spirits and temper than we have been enjoying for some time.

A very heavy thunderstorm broke over us last night, which was preceded by a violent tornado.

DEC. 30.— . . . . .

DEC. 31.—The last day of the old year! Let us hope that the new one will be a little more pleasant. I am making a bad finish anyhow; as I have got a relapse of my erysipelas, with a temperature of 104°, and am unable to move.

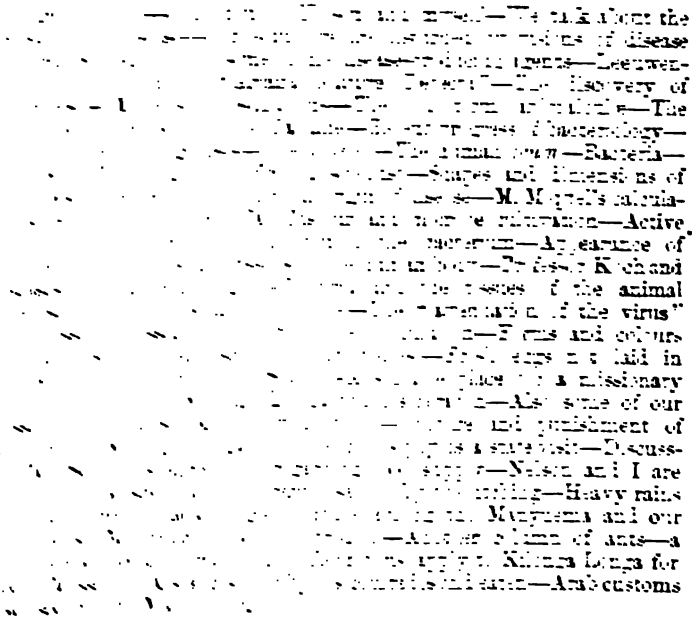
Khamisi came up to my tent to-day, and informed me that

he had been very uneasy since he took the medicine, but was not at all disposed to deny its beneficial effects: he suggested, however, that two—instead of four—tabloids ("Livingstone rousers") would be enough when it became desirable to give the remedy another trial.

These rascally chiefs know that both Nelson and myself are confined to our beds, and cannot get out to shoot anything eatable; also that we have no food left now: yet when I asked Ismailia for something to supply us for the morrow, he coolly replied that he had no food to give. The wretch! I will try and get him to swallow *eight* tabloids instead of four, if I get the chance of physicking him in the near future. Kilonga Longa has been delayed on the road by his wife's confinement; so he will not be here for some days. We have great hopes of getting some food from him; so we pray that Mrs. Kilonga Longa may hurry up, for we must live in the interval on fungi, leaves, and any other small items we may be lucky enough to get. I wish she was more considerate and reached here, for then I might have got a fee; although such cases are not my specialty, I must confess. Auld lang syne!

CHAPTER X.

[illegible] OF BATTERIOLOGY.



[illegible] 1888. A happy New Year to all relations and [illegible] We have two ears of us and a cup of rice to provision [illegible] for the day. I had another relapse of my [illegible] last night, so I do not feel quite so bright as I could [illegible] In the evening we sold a Remington rifle, for 500 heads [illegible] and some rice.

I do not think I noted before that this village is situated [illegible] on the Equator; Ipoto is its name, and Mabambi is that of the native chief. I passed away most of my useless time as I lay in bed to-day in meditating on my position and [illegible] on our future movements, if we ever get the chance

of making any: according to my reckoning it will be eighteen months before we get home.

JAN. 2.—I am much better to-day; but Nelson is still very prostrate. His temperature is very high, and his febrile symptoms very severe. It is hard to say, indeed, which would obtain first prize as the greater cripple.

In the waning light of last evening, Nelson and myself, for want of a more inspiring topic of conversation, descanted upon the causation of disease. The subject was sufficiently convenient to hand, as the temperature of each of us was over 104° F. At first the discussion seemed to have a rather soothing effect, as we supplied one another with a good deal of mutual sympathy; but, as the prolonged talking came to increase our sense of physical weakness, we began to feel the worse for it bye-and-bye. From the discussion we gradually subsided into an unquiet sleep; the rest derived from which was sadly interfered with by the feverish visions of the disease-generators, whose forms and functions we had been picturing to ourselves during the recent waking hours. Our heated brains soon magnified the microscopic entities, to whose presence in our vessels and tissues we had been attributing our present condition, to forms of colossal dimensions. On comparing notes in the morning, we found that our sleeping ideas had been running on nearly parallel lines, and the grotesque mental creations which accompanied us during the night gave us, perhaps, the least refreshing slumbers which we have enjoyed since our arrival at Ipoto. The phantoms of these destructive agents assumed the forms of every malignant spirit or demon of which we had heard or read since infancy; and their united hosts were sufficient, in our disordered imaginations, to overspread, not only the inhospitable Manyuema camp, but an indefinite area of the adjacent forest. They frequently changed their shapes with the inexplicable rapidity of all creations of the sleeping brain, especially when under the influence of disease; and their kaleidoscopic combinations were of far too great variety for memory to re-create next day. The prevailing wish with either dreamer appears to have been that they would depart from our immediate vicinity, and concentrate all their attention on our inhospitable hosts in the neighbouring camp; for whom their appearance and apparent intentions would seem to constitute them suitable company.

But, alas! our will-power was all too weak to influence their movements; they hovered over us with all the indications of persistent malevolence, and seemed to exist but for the undivided purpose of our destruction. We cordially welcomed the morning light, which effectually relieved us from their presence, and we vowed that during the rest of our illness we would devote none of our waking energies to the further discussion of the forms or life-histories of any of the invisible pests, whose career we had been trying to follow in last evening's twilight.

[The visions of that night have often recurred to me since my return to the regions of civilisation and science: I have found that one of the most serious tasks awaiting me on my return home was the unavoidable duty of endeavouring to make myself acquainted in some measure with the enormous numbers of disease-producing agents, which the rapid advances of bacteriological investigation have brought under the notice of the scientist of the present day. Accordingly, as the subject is one which has excited interest among reading and thinking people, of every race and of every class, I will here give, in language as simple and direct as I can, an account of the principal facts of which we now hold undisputed possession in this most interesting and most important department of biology.

As the dimensions of any of the minute parasites, with the presence of which the morbid processes that affect the human organism appear to be inseparably connected, are far too diminutive to come within the range of unaided vision, all knowledge of their appearance, or even of their existence, has necessarily followed the invention of the microscope. Accordingly, the first recorded observations on these organisms are those of the famous Dutch naturalist, Leeuwenhoek, by whom they were embodied in a work entitled "Arcana Naturæ Detecta," which was published at Delft in the year 1695. It is hardly known to the scientist of the present day, but will still well repay the trouble of consulting its pages. As the lenses used by this author were absolutely primitive, and their magnifying power never exceeded 200 diameters, the range and the] exactness of his observations furnish the highest testimony to his industry and accuracy. He found minute organisms in various specimens of dust, in those of scrapings

collected from sundry surfaces, and in the interstices of different mosses; he afterwards brought his investigations to bear on the human body, and demonstrated the presence of microbes in saliva, in the tartar of teeth, and in the intestinal juice: he also announced the fact, which has had its practical importance impressed upon the world only of very recent years—that the number of intestinal microbes is greatly increased in cases of diarrhœa.

Leeuwenhoek also discovered the red corpuscles of the blood, and announced with still greater enthusiasm, his observations on the *homunculus*, the nature and properties of which have been facetiously exhibited to the every-day English reader in the familiar pages of "Tristram Shandy."

Although the discovery of the microbe was, as a matter of physical necessity, postponed till after the discovery of the utilisation of the properties of refracted light, we may trace mystical hints of their existence—little less than prophetic, considering the date of their announcement—through the writings of some of the Greek and Roman philosophers: in the poetry of Lucretius, and in the prose of Aristotle. The aphorism of the former:

Corruptio unius, generatio alterius

might well be adopted as a motto for an exhaustive manual of bacteriology in the present day.

The next important epoch in this line of research was formed by the investigations of Müller, who divided the unlimited number of microscopic beings—which had been collected by the famous naturalist, Linnæus, into one group, under the comprehensive name of *chaos*—into two great genera: *monas* and *vibrio*. These denominations still continue to exist, although the nomenclature of their author has been, of course, entirely superseded.

These early observers had noticed the movements of the minute organisms in question, and, as the idea of spontaneous movement had, ever since the days of Aristotle, been accepted as the absolute characteristic of animal life, nobody then thought of regarding them otherwise than as members of the animal kingdom. They were generally spoken of as *animalculæ*. The hitherto unquestioned dogma of the Stagyrite was overthrown (in 1847) by Thuret, whose investigations on the

zoospores of certain *algæ*, demonstrated that some of the lower vegetable forms exhibited distinct movements, such as had previously been looked upon as characteristic of animal existence. The frequency of this form of vegetable locomotion, and its mechanism, by the agency of vibratile cilia, were amply illustrated by Charles Robin, in 1853, in his interesting and instructive "Traité des Végétaux Parasites." Still the ideas of natural historians on the subject remained vague and unsettled. The earliest discovery of the existence of a microbe in diseased animal tissues was that of the *Bacillus anthracis*, found by Davaine in "malignant pustule." This announcement was made in 1850; and the observer, who had noticed the immobility of the parasite, suggested that such forms should be distinguished as *bacteridia*, and referred to the natural family *Oscillariaceæ*, while those endowed with spontaneous movement, must still be regarded as members of the animal kingdom, and known as *bacteria*. Since that date, however, all authors have agreed that the micro-organisms in question must be, without any exception, referred to the vegetable kingdom. Where they are to be located there is a question which has not, however, been so satisfactorily settled. Some will connect them with the *algæ;* some with the *fungi:* and botanical names of very high authority are connected with either view. Nägeli has proposed the collective name of *schizomycetes*, and Cohn that of *schizophytes*, as best indicating their general nature. The generic name of *microbe* was suggested by Sedillot (in 1878), and has been consecrated by the unique etymological authority of M. Littré, who pronounced it irreproachable. This, and the older appellation of *bacterium*, are the ones which have met with wide-spread acceptance.

Closely connected with the history of bacteriology, is that of the doctrine of biogenesis. The reality of spontaneous generation has been very ably advocated in some quarters, but the decision is now as nearly universal as can well be hoped for in case of any scientific dispute; and it is, that Harvey's aphorism, *Omne vivum ex ovo*, must be accepted, and that no new form suddenly springs into existence, but always owes its origin to a parent of similar characteristics. The tendency of modern biological investigation has also been to show that the first appearance of organic life on our planet was of the simplest form, and was probably represented by a

single cell. In the gradual lapse of ages, progressive development went on with the multiplication of living types, and the division of labour in the physiological mechanism led, by very gradual stages, to the building up of the complex forms and functions which now prevail in the animal and vegetable kingdoms. A definite, and probably by no means misleading, idea of the primitive form may be gathered in the present day from the examination of the structure and functions of a creature of microscopic dimensions, but of great scientific celebrity—the *amœba*. This minute organism is formed of a slightly granular mass of jelly-like matter (*protoplasm*), which presents no definite shape, as it is always thrusting out processes (*pseudopodia*) in all directions; by the aid of which it performs progressive gliding or rolling movements, in such a striking way as to have of late years furnished a classic phrase to the scientific vocabulary of the English language. Its accommodating structure allows it to flow over and draw into its own interior microscopic vegetable organisms which come in its way, a portion of which becomes digested and assimilated, after which the residue is expelled from the most convenient part of the surface of its body. When touched by any external object whose acquaintance it does not seem desirous of cultivating, it is at once seen to move in instant response to the irritation applied. And so the amœba lives its simple life. It reproduces its own image by the formation of a constriction around some part of the jelly-like mass, which goes on deepening, till a separate portion has been cut off, and at once proceeds to live an independent existence precisely similar to that of its parent. Thus the amœba moves, without defined limbs; eats and digests, without mouth, teeth, or alimentary canal; presents the phenomena of sensibility, without a trace of a nervous system; and, under favourable circumstances, will increase and multiply in endless numbers, without any distinction of sex, or a trace of differentiation of sexual organs.

Now the highest existing form of animal life—man himself—begins life as a single cell (called the *ovum*), the intimate structure of which does not appear to differ in any specific features from that of our modest friend, the amœba. It cannot perform the free movements of the amœba, for it is imbedded in the animal body, and has to adapt itself to its surroundings;

and its changes of position are rather passive than active. It multiplies, by division of its own substance, as does the amœba; but not beyond a certain definite limit. And with the further history of these descendants of the original ovum, may be traced the specific differences which arise with the higher specialization of tissues and functions as we ascend the scale in the animal kingdom. No specialization of any kind can be observed in the minute speck of protoplasm which forms the body of our primitive amœba. And, as we ascend in the various gradations of animal life, the one great principle which underlies all the distinctive differences observed between the lower and higher forms is that of the division of physiological labour among the constituent cells. The humblest citizen of the animal kingdom is an undifferentiated cell: the highest is formed of a countless number of these elementary structures, variously modified, and set apart to perform definite functions in their respective positions in the economy; but all descended from a single (and simple) parent cell—the ovum. And all varieties of intermediate forms are found, in which the great distinction is the earlier or later period of the arrest of the application of this same principle of physiological division of labour. So that, perhaps, the strongest of all arguments in favour of the principle of evolution, is the fact that the life-history of each higher plant and animal presents an epitome of that of every organism which happens to stand lower than itself in the developmental scale of its kingdom.

But, while this predominant law of progressively increasing complexity of structure has been governing the visible members of the animal and vegetable kingdoms, a great group of humble plants, so small as to be unnoticeable by the naked eye, and so numerous as to tax the calculating powers of the advanced mathematician, appear to have continued to live and multiply in their primitive state of structural simplicity. The minuteness of their size accounts for the fact that their existence has become known to man only in the latter days; they are his microscopic contemporaries, and his possible ancestors; they have alternately been described, according to the point of view from which they have been regarded, as man's invisible —but most important—friends, and as man's deadliest foes. These are the BACTERIA.

The long-disputed question as to which organic kingdom

they really belonged, has now been for some years settled, by their unanimous recognition as plants, and their established relationship (preferably) to the algæ. These minute organisms vary a good deal in shape, but the great majority conform to three outline groups: spheroidal or ovoidal (*coccus*, *micro-coccus*); rod-shaped (*bacillus*); and, spiral or corkscrew-shaped (*spirillum*). They appear under the microscope as pale, translucent bodies; whose outlines, to be made distinct, must be stained with some of the aniline dyes. The majority move, during life, with extraordinary activity, and perform curiously complicated series of gymnastic exercises as we watch them under favourable conditions. To promote their vigour, and foster their reproductive power, they must be supplied with warmth, moisture, oxygen, and a certain proportion of organic matter. Under these conditions, they carry on their own nutrition by breaking up the dead organic material, selecting such portions of it as they find appropriate for assimilation, and setting free the rest in such condition as to be readily utilized by other living beings. Accordingly, the advocates of the bacteria point out to us that they are the most important of all agents in keeping the store of material necessary for the maintenance of organic life on earth always ready to hand in available form; that, without them, the necessarily limited supply would rapidly run short, no phenomena of putrefaction could appear, and even somatic death would not set free the material necessary for the growth of new beings, which must, under such circumstances, soon cease to appear. And thus the worn-out and otherwise unavailable forms of organic matter, which would, without the intervention of such agency, have lain locked up in the deceased animal and vegetable structures over the face of the earth, are silently torn to pieces and teased out, in such a way as to be readily utilized by the new forms of life.

Everywhere that man can penetrate, bacteria are to be found. Their multitudinous shapes and forms occupy the surfaces of all animal and vegetable beings; on the face of the waters and of the dry land they form layers, and penetrate to a moderate distance into the superficial strata of the soil. We live in an ocean of bacteria. They swarm wherever dust can penetrate and collect; we swallow myriads of them with every morsel of uncooked food. Their collective existence

and life-history is an unseen marvel: a saintly schoolman of the middle ages addled his brains and mystified his contemporaries in calculating, by pure force of logic, how many angels could dance on the point of a needle; modern bacteriology has furnished more tangible results—it has made us quite familiar with organisms of which more than a thousand may be comfortably located, in apposition, across the head of a pin; and, which multiply with such rapidity, in their own method of geometrical progression, that, according to the calculation of an eminent biologist, a single one must, if the proper conditions could be maintained, in less than five days generate a mass that would fill the space occupied by all the oceans on the earth's surface, supposing these to have an average depth of one mile. But such limitless reproduction is effectually held in check by the relentless laws of nature; the struggle for existence goes on as fiercely and viciously among the bacteria as it does among the most highly organized animal forms.

Such are the revelations of modern science. We have noticed the comparability of the amœba, the bacterium, and the human ovum. So strongly have some eminent biologists been impressed by the essential similarity of these various cellular structures and their products, that an accomplished French scientist, Beauchamp, has advanced, with great ingenuity, the theory that the cellular structures of which the whole animal body is built up are all *microzymas*, which require but the intervention of a morbid process to transform them directly into bacteria. This transition has not, however, been traced; and any attempt to discuss the arguments for or against its occurrence, would probably lead us from the domains of natural history and pathology into that of metaphysics.

The practical interest of all bacteriological investigation is gathered round the central fact that all the morbid processes which threaten the life of man, or tend to diminish his physical welfare, appear to be accompanied—each by a characteristic bacterium. A stronger claim on our attention could hardly be devised; it is quite sufficient to account for the enthusiastic perseverance with which the forms and habits of the various bacteria have been studied during the past few years, and the *embarras des richesses* which the pursuit has resulted in presenting to the scientific world. I have already referred to the

three prevailing shapes of bacteria—the ball, the rod, and the corkscrew. These more typical forms are, as will easily be expected, variously modified; but, as a rule, only within moderate limits. A variety of the rod-shaped bacterium (bacillus), presenting a slightly wavy form, is also characterized by a peculiar tremulous or vibratory movement, and has on this account been distinguished by the name of *vibrio*. A bacillus of exceptional length is known as *leptothrix*. Special modifications of the corkscrew forms are known as *spirulina* and *spirochæte*. Again, many of the ball-shaped bacteria have distinguished themselves in their growth by their tendency to arrange themselves in definite groups: some form chains—hence the name *streptococcus;* others form clusters like bunches of grapes—on this account called *staphylococcus;* and so on. Hoffman, and after him Klebs and Billroth, have tried to found a classification of bacteria based on their relative dimensions: they divided them into *micro-*, *meso-*, and *mega-bacteria;* but this arrangement appears to me to be the most artificial, and least practical, that I know of.

Knowing, as we now do, that morbid processes are accompanied by the presence of characteristic bacteria, one of the most interesting questions connected with the well-being of humanity must certainly be that of the exact nature of the connection between the presence of these minute organisms and the existence of the corresponding phenomena of disease. That their presence is characteristic is now admitted by all; how far the accompanying disease is dependent on their presence, and might be prevented by their exclusion, or removed by their extinction, is the aspect of the question which still admits of some dispute. The answer to this query now given by scientists is usually an emphatic affirmative; the objections which have been made by the sceptical are mainly as follows: (1) the presence of the bacterium is merely an epiphenomenon, and is in no sense the cause of the disease, but is, on the contrary, a result of the process—a morbid product; (2) the presence of bacteria in atmospheric air has not been satisfactorily demonstrated, so that the phenomena of infection cannot well be accounted for by their transmission; (3) disease varies more in individual cases than it could well do if due in every instance to a single specific bacterium; (4) the phenomena of disease are not due to the presence of

bacteria, but to the action of certain poisonous alkaloids (*ptomaines*) which are secreted by them.

The last of these objections appears to be but a childish quarrel about words, and cannot at best be said to include more than the affirmation that the bacterial influence is indirect, and not direct, as was asserted. It always brings to my mind the profound nursery illustration of the difference between a cat looking out of a window and a cat looking in, and may be fairly answered—with a dignified display of learning—by applying the antiquated scholastic argument: *Quod est causa causæ est causa causati.*

The third objection, which opposes the extreme variety of the morbid phenomena to the unity of the species of bacterium to whose presence they are due, is one which, of course, requires more serious consideration. Still, I can hardly regard the difficulty which it presents as a very serious one. When we consider the great variability of the human organism, and the different degrees of resistance, which its tissues—affected by heredity, habit, previous disease, climate, quality of food, and a host of other influences—are likely to offer to the progress of the invading microbe, we cannot, I think, expect a greater uniformity of phenomena than we actually meet in practice.

The second of the above objections does not, I think, offer any serious obstacle to the acceptance of the bacterial origin of disease. Some of the most competent authorities have succeeded in demonstrating the presence of pathogenic bacteria in atmospheric air: it is not necessary to suppose that they abound in comparatively pure air, and no one can now question the fact that they are found adhering to particles of dust and of moisture.

The first objection, which, although not demonstrable, had a great air of plausibility so long as its possibility could be maintained, has been completely demolished by the inoculation experiments of recent years. There can no further remain any doubt as to the relationship of the presence of bacteria and the phenomena of disease in the order of time.

We have now glanced at the principal objections that have been made to the generally-accepted theory of the bacterial origin of disease, and indicated superficially some of the more noticeable physical features of the bacteria themselves. Let us return and glance at them a little more closely. The

number and minuteness of those bodies will perhaps be more forcibly impressed on the general reader by the fact that M. Miquel calculated the proportion present in a specimen of water in which dirty linen had been soaked, at 26,000,000 per cubic centimetre. According to the same authority, the presence of a million of microbes in a cubic centimetre of water does not in the least affect its crystalline transparency. This information is all the more important in presence of the fact that the micro-organisms of the most formidable epidemic diseases are chiefly conveyed by this medium.

The superficial layers of earthy soil are ordinarily found to be very much richer in bacteria than the water of the neighbouring pools, even when the latter possesses no special pretensions to cleanliness. M. Miquel, whose calculations have been confirmed by those of other observers, calculates the average number present per gramme of earth at 800,000 to 900,000. They cover all the surfaces—animal, vegetable, and mineral—over the superficial area of our terrestrial globe. The skin of the grape is dusted over with a micro-organism (*Mycoderma cerevisiæ*) whose presence is essential to the phenomenon of alcoholic fermentation; and the cuticle of the human being is habitually powdered with the pus-producing agent (*Staphylococcus pyogenes aureus*), which quietly lies in wait for a breach of continuity through which it can effect an entrance. The superficial layers of the soil frequently yield to the scientific explorer numerous specimens of the bacillus of charbon, the vibrio of septicæmia, and the drumstick microbe of tetanus. Like all other organized beings, they require for their nutrition a medium containing a mineral, a hydrocarbonaceous, and a nitrogenous constituent. Acting on this knowledge, M. Pasteur has been able to cultivate them in an artificial solution containing:

Water	100 grammes.
Sugar candy	10 „
Ammonium carbonate . . .	1 „
Yeast cinders	1 „

A true respiratory function is performed by every living microbe; and, although they are very generally divided into *aërobic* and *anäerobic* (following the example of M. Pasteur himself), according to their behaviour in presence of oxygen it is not the less true that the presence of this element is

absolutely necessary to the existence of all. It is well known that a typical anäerobic specimen, such as the *Bacillus amylobacter*, will rapidly perish when brought into contact with oxygen of even moderate purity. It has also been demonstrated that no äerobic form hitherto discovered can exist in an atmosphere of oxygen, when condensed by a pressure of fifteen atmospheres. It has likewise been proved that the most decidedly anäerobic forms absolutely require for their preservation a certain proportion of oxygen—their peculiarity being that the element must be supplied in very small quantity, and very gradually: not one of them can exist in a medium from which oxygen is entirely absent. So that the whole question of the relationship between bacteria and oxygen resolves itself into one of dosage. It is both interesting and practically important to remember that the majority of the pathogenic bacteria which cause serious mischief in surgical lesions are of the anäerobic variety; and their incapability of existing in presence of a liberal supply of oxygen accounts for the remarkable antiseptic results often obtained from free-air dressing—after surgical operations, and in cases of wounds otherwise inflicted—and which were at one time used as a strong argument against the germ theory of disease.

The active mobility of the majority of bacteria has already been noticed, and it is really very curious to observe the definiteness of purpose with which some of the movements are performed. An äerobic bacterium placed under the microscope will be seen to travel in the direction of an imprisoned globule of air in the fluid in which it has been mounted. The anäerobic specimen takes corresponding care of his welfare by studiously avoiding the vicinity of the same bubble. They are similarly attracted or repelled by light, as it happens to be useful or hurtful to the economy, and they are always very sensitive to its influence. A fact of additional interest in this connection is that bacteria are more highly influenced by the solar rays as we pass towards the violet end of the spectrum.

The action of extremes of temperature on bacteria is also very pronounced; most of the pathogenic forms are destroyed by exposure to a temperature of 100° C. for a moderate period of time; but as the spores resist the influence of heat better than do the adult forms, it is well, in order to insure the complete destruction of a colony, to expose it for some time to

a temperature of 140° C.; or, safer still, 150° C. They are much less surely affected by cold; most can be frozen to death by using powerful refrigerating mixtures; but as one well-known mischievous bacillus has been found to survive a temperature of − 130° C., it is obvious that this mode of destruction cannot well be relied on.

The *reproduction* of the bacterium by the simple method of *segmentation* exactly corresponds to that which has already been alluded to in case of the amœba, and compared to the very similar process which occurs in the ovum; other methods of multiplication are by *gemmation*, and by *sporulation*. The process of segmentation is mostly characteristic of the rod-shaped forms—straight, wavy, or spiral as the case may be; the reproduction by gemmation, of the rounded species; while the phenomenon of spore-formation is seen in both, but much more frequently among the rods.

In gemmation, a bud forms at some point of the surface of the parent-cell—sometimes two, one at either end of a diameter; it grows till it acquires a bulk of about a third of that of its progenitor, when it drops off and assumes an independent mode of existence, usually growing to the size of its parent in a very short time.

The process of spore-formation, although more frequently observed among the bacilli, seldom occurs even among the latter except when the specimen is suffering from failing health or deficient supply of nutrition. Accordingly, it can be brought about artificially, with great ease, by exposing a previously vigorous bacillus to the unfriendly influence of too high a temperature or too strong a light. The actively moving rod becomes immobile, its protoplasm swells—either in a small portion of its length or throughout the whole—any granulations which it presented disappear, its refractive power increases, and a clear—oval or spheroidal—body forms, with dark contour — the latter by-and-by breaking down, and setting the spore at liberty. The process appears to be a mode of self-preservation afforded by nature to the species. The spore, at all periods of its existence, resists the influences of heat, cold, light, desiccation, and even the action of powerful antiseptic agents, in a way that the parent rod could never have done. Büchner has reported the gemmation of spores which had spent a whole day immersed in strong sulphuric

acid! When the spores are set free in a favourable medium, they soon develop the characteristic features of the parent cell.

The extraordinary conservatism marked in the life history of successive generations of bacteria has been curiously exemplified in the report that a specimen has been found in the dental tartar of an Egyptian mummy, which proved absolutely identical with the variety that is familiarly known to occur in a similar position at the present day. It has been calculated that, in the direct line of descent, over twenty-six millions of bacterial generations have come and gone within that interval: still the laws of evolution have never affected the primitive form!

With these leading features to characterise them, the bacteria live and have their being; they increase, and multiply, and replenish the earth; and endeavour, to the best of their abilities, to subdue it. It must not, however, be supposed from what has been said that all forms of bacteria are equally prejudicial to animal life; on the contrary, some are man's most constant and most active friends. The *Bacillus amylobacter* is a necessary auxiliary to the natural digestive fluids of the human alimentary canal. Many other bacteria appear to exercise no specially baneful influence on the animal organism. The features of special importance, however, in connection with their appearance in the fluids and tissues of the human body, are: their extraordinarily rapid rate of reproduction, and the fact that the materials for their nutrition must be drawn directly from the immediate neighbourhood, while the products of their excretion are necessarily washed into the fluid by which they are bathed. They borrow their means of livelihood from their host, without at all consulting his wishes on the subject; and, with the same want of sympathetic feeling, they pass on their sewerage into the circulation, on the purity of which his health and vigour depend. The two factors cannot, evidently, be separated in the mischievous result; we can only see the general effect. The principal excrementitious products whose existence is traceable to the action of bacteria, are now well-known under the name of ptomaines. They possess both chemical composition and poisonous properties very similar to those of well-known vegetable alkaloids: and the specific connection between a particular bacterium and the

ptomaine which it manufactures during its existence in the animal tissues has in a good many cases been definitely traced, and such production of a special alkaloid by a special micro-organism very probably takes place in the case of every pathogenic microbe. Many observers who will not allow that bacteria are the real producers of disease, admit that the symptoms of the latter are due to ptomaine poisoning, but the distinction, as already pointed out, is a very puerile one indeed.

In order to demonstrate that a disease is of bacterial origin, it is absolutely necessary, as laid down by Professor Koch, that the following four conditions should be forthcoming:—

(1.) The same bacterium must be present in the tissues or fluids of every individual affected with the disease;

(2.) The bacterium must be isolated and pure cultures obtained;

(3.) The disease must be reproduced in healthy individuals by inoculation from these pure cultures;

(4.) The same species of bacterium must be discoverable in the tissues or fluids of the individual so affected by inoculation, and in parts situated at a distance from the seat of the inoculation.

As a matter of fact, these four conditions have up to the present been fulfilled in but a very limited number of cases; and it is obviously impossible to apply this cycle of investigation, in its complete form, to all important varieties of disease affecting the human body; but those in which it has been found possible or desirable to complete the stages above indicated have given satisfactory responses; and more especially among the lower animals, where the methods of scientific research are not restricted in the same way.

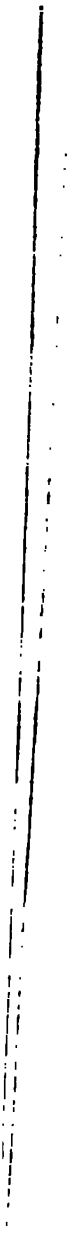
Such are the relationships now established—between the harmful species of bacteria and the morbid phenomena of animal life. The human form is obliged to maintain its existence in the midst of microscopic enemies belonging to the lowest forms of vegetable life, which are always ready to avail themselves of any mode of entrance to its interior; where their presence is surely accompanied by a direct attack on its well-being. Each time that a colony of bacteria obtains a settlement within the human organism, it will be obviously understood (from what has already been said) that traces of their passage will be left, both in the way of subtraction of some

of its principles, and by the deposit of new material; and these effects will be more pronounced in proportion to their number, and the length of their period of sojourn. They leave the conditions of life in a modified state. It is in this way that vaccination, and other modes of inoculation, protect the individual affected. It will also be obvious that such protection is likely to become modified by time; as it is very unlikely that all the tissues and fluids of the organism will be in any case so completely altered by the results of a single inoculation, that the effects of the latter may not disappear in the course of a considerable span of the life history of an individual so operated on.

The resistance of the tissues of the animal organism to the action of the invading bacteria, varies greatly, of course, with the hereditary or acquired constitution of the individual. During the period of every such invasion, a direct struggle for existence goes on between the army of intruding vegetable cells on one side, and the not entirely dissimilar cells which build up the animal tissues on the other. The resisting powers of the latter must be a very uncertain factor indeed; considering the enormous range between the extremes of nutritive activity and general physical vigour, which we every day see around us in the various specimens of the human frame with which we are familiar. The lodgment of a colony of bacteria is in itself an unavoidable cause of a rapid increase of the local chemical changes which are always going on in the tissues. This is necessarily accompanied by increase of temperature, as animal heat is the result of the molecular work of the assimilation and disassimilation which are continually going on in the tissues of the body. But this increased evolution of heat is rapidly emphasised to a much greater degree when the entrance into the circulation of the toxic products manufactured by the bacteria is followed by the inevitable consequence of derangement of the heat-regulating mechanism of the nerve centres.

So far as we can see in the light of our present knowledge, there is great reason to believe that what defence is made by the animal tissues in resisting the incursions of the aggressive bacteria, is chiefly entrusted to a special variety of cells, which, in this connection, it has now become fashionable to call *phagocytes*. Some larger cells found in the spleen, thyroid

DIFFERENT WAYS OF GARDENING AT FORT BODO. 9



body, connective tissues, and on certain epithelial surfaces have been credited with this function, but the principal members of the sanitary garrison appear to be the *leucocytes* (colourless blood-corpuscles). Wherever a breach of continuity of the surface has taken place, these cells are always found to rush to the front in large numbers; and a hand-to-hand battle for life or death takes place between the two armies of cellular organisms. The only mode of attack known to the leucocyte is the primitive one, which it employs just as does its distant cousin the amœba, of directly swallowing up its opponent. If it succeeds in effecting this purpose, the career of the bacterium ends there and then: it is rapidly digested, and, of course, completely wiped out of existence. The one effective weapon of the bacterium, on the other hand, appears to be the poisonous alkaloid which it secretes; or, to the formation of which, at least, in the tissues of its host its presence always gives rise. This so-called ptomaine appears to have the power of breaking up the leucocytes; and, probably, others of the animal cells in the neighbourhood as well. If the advance guard of leucocytes is sufficiently numerous and sufficiently strong (individually) to swallow up the incursive bacteria, no constitutional mischief results; if, on the other hand, the bacteria have the best of the first battle, further complications must necessarily follow. If the latter have a "walk over," the phenomena of acute, perhaps fatal, disease follow; if the forces are pretty evenly balanced, and other circumstances not tending to favour the victory of either contending party, indefinite chronicity is the result.

A word must here be said on the subject of the most interesting of all the recent practical applications of our knowledge of bacteriology—the "attenuation of the virus." It has for a considerable time been known that when a colony of bacteria has for some little while been subjected to conditions *nearly fatal* to the existence of its individuals, the latter (and their descendants) lose so much of their virulence as to render their inoculation comparatively harmless; also, that when allowed to develop freely under exceptionally favourable circumstances, their malignant properties may be magnified to an almost indefinite degree. Professor Toussaint was the first to observe a modifying action of this kind. He found that after heating the blood of an animal affected

with charbon to a temperature of 55° C., its subsequent introduction into the blood or tissues of a healthy animal was followed by comparatively trivial results, which passed off in a short time: but which had, nevertheless, the effect of rendering the inoculated animal indifferent to the effects of subsequent doses of large quantities of the bacteria in a thoroughly vigorous condition. A similar result was obtained by treating the infected blood with a solution of carbolic acid, not strong enough to destroy the existence of the bacteria, but merely to impair their vitality. Acting upon this discovery, Professor Toussaint established the practical results of protective inoculation. Any other agent which may be employed in such a way as to bring the bacterium to the verge of destruction, without absolutely destroying its vitality, may be employed in a similar way for the preparation of an attenuated virus. The virulence of some bacteria is lowered to the requisite standard by simply allowing the colony to grow old without any other interference. M. Pasteur has obtained analogous results, by repeated cultures of colonies of the same bacterial virus on different media; through which he has succeeded in modifying its properties to almost any degree that he may desire: inoculation with these artificially trained specimens still afford the desired protective power. The applications of these discoveries within recent years are familiar to educated people in all civilised countries.

Such are the more notable features in the family history of the all-pervading bacterium, and of its relationship to its struggling human fellow-creatures. The fact has been emphasised that bacteria are not in all instances unfriendly to man; but that, on the contrary, some species are among his most important allies in the physiological struggle for existence. Their somewhat mysterious movements have been referred to, the mechanism of which in many cases is by no means very clear; although in the rod-shaped forms at least, they appear to be due to the action of a vibratile cilium of excessive delicacy. Various as are the forms of bacteria, some observers of very high authority, including Nägeli and Billroth, profess to believe that they are all really members of a single species, and are all derived from the same form of cocco-bacterium. We have referred to the translucency of the average bacterium, but this feature is not a universal one: some few varieties

are richly coloured. The peculiar green, yellow, blue, &c., tints which different specimens of pus sometimes present, are all—as well as the more familiar yellow—due in each case to a special form of coloured microbe. Milk is sometimes seen to change its colour gradually to a deep blue, or to a deep red, from analogous causes. The phosphorescence of fish is due to the presence of *Micrococus phosphoreus*, and the ready growth of the deeply scarlet-coloured *Micrococcus prodigiosus* on amylaceous matters—previously cooked, and then placed in a moist and bacteria-laden atmosphere—is now known to have formed one of the most important factors in the spread of mediæval theology, and to have been the central phenomenon round which ecclesiastical wars, persecutions, and anathemas raged for many centuries.

And so the bacteria live their humble lives; performing, in their struggle for existence, manifold functions: sometimes of the greatest usefulness, sometimes of the most pernicious tendency. The reading world has heard, perhaps, everything about the latter; let us not, however, by a one-sided view, entirely lose sight of the former. We now know that these primitive creatures plough and harrow the soil of organic material, from which each successive crop of animated beings is raised up to supply the place of their deceased ancestors. And, above all, let us not be carried away so far in the (hitherto) unsatisfactory effort to accomplish their destruction in the animal body, as to lose sight of the use of the rational methods ready to hand of combating the various diseases which are characterised by—whether or not they are absolutely due to—their presence in the tissues and fluids of the human organism.]

JAN. 3.—I have just discovered that my servant has stolen two bottles full of most important medicines (Dover's powder and ipecacuanha); also two spoons, and fifty rounds of ammunition. I have threatened to shoot him if he does not tell me where the medicine has gone; he has sold the *bottles* to the Manyuema in the next tent.

Ismailia returned to-day with some of Kilonga Longa's men. Kilonga Longa sent us his "salaams," and is expected here in four or five days.

Both Nelson and myself are piebald all over our bodies, from the results of scratchings and ulcerations. We quite

appreciate the tormenting efficacy of the third plague of Egypt: our ulcers are in great measure the result of malnutrition.

We purchased a good chicken last night, with a pair of Emin Pasha's drawers. It is somewhat peculiar, we have thought, that we can never get a fresh egg, although on the testimony of these people the eggs they give us are always "just laid." The only logical conclusion we can deduce from this evidence is, that *the hens in the heart of Africa do not lay fresh eggs!*

JAN. 4.—We are both much better. We observe (1) that we are not nearly so irritable; and (2) that creeping things can race all over us in every direction without making us at all uncomfortable. My boy, Sherif, has not yet returned. He ran away: because, in the first place, he knew that I had evidence of his stealing the medicines and selling the bottles; and, in the second place, I believe he really thought that I would shoot him.

Ismailia was asked for food to-day; but "had none." An hour or two afterwards he offered to sell us some for a rifle. We have now been turned out of our hut, and six slaves have replaced us. This is a place I could conscientiously recommend as a missionary station; missionaries necessarily select remote and unenlightened places, and I will confidently promise that they need expect no earthly reward for their presence and their labours here, beyond that satisfaction and contentment of soul which an abnegation of self to the dictates of duty and conscience must and will always confer on the virtuous man.

JAN. 5.—I find that my boy is now working for Khamisi. I told him to bring him back to me. Possibly, indeed, it is he who induced him to leave me, as he is strong and able to work. Ismailia said to my messenger this morning that there was no food; and, in one hour afterwards, he sent up meal to sell for a spoon. Unfortunately, I had sold my only two. He brought up a rifle, which had been given him by Mr. Stanley (No. 310); it was broken, and he modestly asked for a good one instead, but did not get it.

JAN. 6.—We have decided to kill our goat to-morrow. Both of us spent the day in bed with fever, and we have now recommended each other meat.

JAN. 7.—Sangarameni brought us one cupful of rice—this,

with goat's liver and kidneys, gave us an excellent breakfast. This man has certainly more of the milk of human kindness in his composition than any of the others. We have arranged with Khamisi to build us a house for our boys, and also a boma. We are to give him a rifle and seventy rounds of ammunition for his trouble. It will be necessary to keep out Kilonga Longa's rabble when they arrive.

JAN. 8.—Two men came into the village to-day, and reported Kilonga Longa close at hand.

JAN. 9.—Kilonga Longa's long-expected arrival occurred at one o'clock to-day. A great display: the advent was celebrated by the blowing of war-horns, firing of guns and rifles, beating of drums—and other discordant noises of various kinds, singing, and playing of stringed instruments. He was accompanied by about 250 persons—men, women and children. The remainder of his column is due to-morrow. They all look starved, and in wretched condition; they say that they have had very little food to live on during the past seven months, many of the force having died of inanition.

Kilonga Longa is a small wiry man; he has an extremely bright, intelligent look in his eyes. He and the immediate members of his staff are to be banqueted to-night. Umari (chief) and nine Zanzibaris, who were left with Nelson, and who had been away foraging when Jephson's relief party came to the rescue, also arrived with Kilonga Longa, who had picked them up, in a starving condition, on the way; they had been crawling helplessly about in the bush.

JAN. 10.—All the returned Zanzibaris came last night and visited Nelson and myself; we were, of course, confined to our beds. Poor creatures! they are awful looking skeletons, surely. What a fearful amount of misery and privation was testified to by each bony figure. Nelson and myself both noticed how carefully they seemed to "take stock" of everything in the tents. We rose, took their rifles, and stacked them in my tent.

During the night there was a great fantasia, with much music and singing. About 2 A.M., while it was still pitch dark, I was awakened from my sleep by a noise—made, as I thought, by a rat scraping at the wall of my tent. Whenever I moved, the ammunition boxes, on which I was lying creaked, and the noise then ceased for a little; but it re-

commenced again and again. Owing to the darkness, I could see nothing; but I began to suspect the visit of a nocturnal thief, and my mind forcibly recalled the careful way in which the Zanzibaris had used their eyes when visiting in my tent in the evening. Acting on this thought, I got quickly out of bed, opened the door cautiously, and crept around to the back of my tent, with the nearest approach to feline movement that I could assume. When I had got to the point opposite the position of my bed, I jumped to the spot where the thief must be lying—if thief there was. I rolled over a cold and slimy mass, of human bones covered by integument; which turned out, on identification, to be one of the Zanzibaris who had just returned; his name is Montgomery Kamaroni. He was just in the act of stealing a rifle, which he had almost removed through a hole, of a foot in length, that he had cut in the wall of my tent. I seized him, and flung his knife away for some distance—I recovered it this morning, and still have it in my possession. With some difficulty, I dragged him round to the front of my tent, and called out to Nelson that I had caught a thief. Nelson came out as quickly as he could and called our boys, who brought a lighted stick, and we immediately recognised Kamaroni. As we stood over him, with our fingers on our revolvers, we came to the conclusion that discretion was the better part of valour. Our first impression was that the proper treatment was to shoot him forthwith; but the fact that, being a Zanzibari, he was a compatriot of Kilonga Longa's might well make us pause. The latter, although not, perhaps, very warmly affected towards poor Kamaroni, might nevertheless be sufficiently irritated by the quasi-judicial death of a countryman of his, to determine his future choice between the alternative of giving us a little food, and giving us none at all. As we were absolutely in the power of this worthy, we decided to do nothing rash for the moment. So we tied Kamaroni to a tree for the night. In the morning we held a *shauri* on the subject with his chief Umari, and we granted a reprieve, and commuted the sentence into one of a light flogging.

The remainder of Kilonga Longa's expedition has now turned up—they make about 400 in all. Umari is now messing with us, and he tells us that Ismailia has been persuading Kilonga Longa that the white men—Nelson and

CURIOS ON LEOPARD SKIN.

1. Mazamboni's spear-head.
2. Shoes made by Emin's people.
3. Fishing spear-head from Aruwimi.
4. Knife used by Camaroni, *vide* p. 182.
5. Spear-head from Ankori.
6. Pigmy ivory bangle.
7. Ivory bangle worn by Kavalli's people.
8. Knife which killed Feruzi Ali, *vide* page 119.
9. Throwing-knife found at Tanga, Aug. 1887.
10. Clay pipe made near Albert Nyanza.
11. Manyuema spear-head.
12. "Chino" or wooden mortar.
13. Tobacco from Ankori.
14. Ball of hair found in the stomach of a cow in Karagwé.
15. Forest ivory war-horns.

myself—are bad, and the Zanzibaris no better, and that we ought not to get any food. This is the same chief who, on the 26th of October last, promised Mr. Stanley in my presence, that we should be provisioned, and our men all cured for? Mr. Stanley certainly believed in him, for he told me that "he had a big heart."

Kilonga Longa found four of Mr. Stanley's Remington rifles in the bush—belonging to men who had died of starvation—all of which he retains as his private property. At 4 P.M. he paid us a state visit, accompanied by all his chiefs.

JAN. 11.—I have been called to give professional advice to some invalids among Kilonga Longa's people; I found them all in a wretchedly emaciated condition. One of them was a woman who had just had a miscarriage, and carried the fœtus to me wrapped up in a banana leaf. The Manyuema adults are all of a very dark brown colour; but their babies, for a month or two after birth, are of a pinkish white.

JAN. 12.—I arranged with the chief Khamisi to allow those Zanzibaris who have lately arrived to work for their food, on the same terms as the others—as settled by Mr. Stanley before his departure. Kilonga Longa paid us a visit, accompanied by some of his chiefs. He wore a small sword, suspended from his shoulder. It is customary with the Arabs for all people of importance to wear side-arms. I have to take a back seat in regard to this demonstration, as one of my carriers, Rehani, deserted with my entire kit—including my sword—on the 11th of October last. Nelson presented K. L. with an Express rifle which cost £45. I followed up this with a donation of an ink-bottle. We accordingly thought it would be a favourable opportunity to discuss the provision question. So we had the written agreement (English), between Mr. Stanley and the three chiefs, translated to him by Umari. There was, however, no one who could translate the Arabic document; and each of the three chiefs gave a different version of the original compact. Kilonga Longa said that he had known Mr. Stanley on the Congo; he had got bales of cloth from Abed Bin Salim in Manyuema years ago. Also, that, at Stanley Falls, he had himself given Mr. Stanley thirty tusks of ivory, for which the latter sent him guns, powder, and cooking-pots. He then turned to Nelson and asked him—"Do you think Mr. Stanley a good man?" Nelson's reply was very diplo-

matic. "If Ismailia, your subordinate, were asked what he thought of you, what would you expect him to say?" This way of answering the question almost made me suspect that Nelson must have some Hibernian blood in his veins. It is quite clear to us that Ismailia has been using his best wits to induce K. L. to continue to starve us, so that we may sell the ammunition and rifles; which would be fatal to our Expedition. There was some further conversation, but very little that was definite, on the main point at issue; we are now soothing ourselves only with the hope that the presents we have given will move him to treat us generously in the way of food.

JAN. 13.—Kilonga Longa sent off a large *safari* to-day to forage for food and ivory. He sent us enough rice for two days—for ourselves, our two boys, and Umari. We are bound to look after Umari, as he was very kind to Nelson in the dismal "starvation camp," and now the poor man is prostrate from fever and inanition. We also got a fowl, some salt (which we thoroughly enjoyed, for we had not tasted any for several months), and some spices to make curry with. (The only European eatable or drinkable which we have had for some time is tea).

I have had another relapse of my erysipelas. Curiously enough, whenever I get the least attack of fever the erysipelas returns; and before I feel any symptom whatever of the fever, a livid pinkish blush appears all over the upper part of the right thigh.

JAN. 14.—Nelson is ill again to-day. This time it is gastric irritation, complicated with some rheumatism, which is an old enemy of his, and often attacks him very severely, quite doubling him up during the acute stage.

Last night we were both driven into a state of temporary insanity by the itching. I think the detestable symptom must have been due to some electrical change in the atmosphere, for I felt my hair stand on end all over my body; and could barely allow anything to touch my skin, I was so excessively sensitive and irritable all over the whole cutaneous surface. There was a little rain, and, whenever rain does fall, the surface of the ground about the settlement immediately afterwards is simply a seething mass of maggots and other low forms of animal life. Before the rain, nothing is seen on the surface of the dry ground, excepting layers of vegetable

rubbish and fæcal *debris;* but immediately after rain, every particle of filth seems to become endowed with life. These detestable white maggots jump so high that, unless one's boots are well laced up, and tied above, they manage to drop in between the stocking and boot.

All the Manyuema are hard at work, clearing the ground to make gardens; even the little children are out. They advance in line with their native bill-hooks (*mundus*), and chop down all the undergrowth of shrubs, &c.; this they collect in heaps. They then hoe up the ground; and plant rice, and Indian corn.

It was really prudent to have sent out so large a suffari yesterday, as food is becoming extremely scarce here now.

New moon to-night.

JAN. 15.—Some of the people went to work at their gardens; others went on with the building of houses; but a certain section of superstitious individuals won't do any work for the present, because it is new moon. These auspicious individuals tie rags, which have been made holy by some mysterious process of *dowah* (medicine), around their limbs, for luck. The weather is now very wet; and I feel very much the want of a second shirt and coat when I am thoroughly drenched, as I am obliged to allow my clothes to dry on my back; or go naked while I dry them some other way.

Good-nature seems to be an extremely rare commodity among our Zanzibari friends and Manyuema neighbours. A poor wretch named Tofik arrived (in the condition of a skeleton) in our camp to-day, having followed up the track of Kilonga Longa's caravan. He was famished, yet none of his Zanzibari comrades would allow him near a fire or into their huts. This man, be it remembered, had given them a shoulder of goat but a day or two ago. There really is, however, a plausible explanation (if not excuse) for the absence of good Samaritanism among these people under the circumstances, as the poor creatures who become so reduced by starvation smell terribly; the colour of the skin becomes an ashen grey, the hair stands on end all over the body, and the skin over every prominence ulcerates, so that the bones actually appear through. It is a deplorable sight. It would now be difficult to find a single Zanzibari who has not a gangrenous ulcer on each hip, and another on the back (over the sacrum)—which have been pro-

duced by the pressure of lying on these prominences. Poor Nelson is in as bad condition as the worst of them.

We are plagued with minute ticks, which bury themselves in the skin, and have actually to be dug out with the point of a knife. They cause intense irritation.

My donkey, poor beast, is always getting intermittent fever. His rectal temperature yesterday was 106° F. He always prefers to lie on the top of heaps of refuse, and he lives mainly on excrement, which he collects around the village; he usually reposes where filth is most abundant.

JAN. 16.—To-day we received a visit from Kilonga Longa. Nelson did the interviewing, as I was away paying a professional visit. He afterwards sent us three cups of rice. We have now introduced a new scheme of diet: we live on two meals a day. In the morning, one cup of rice, made into rice-gruel, has to suffice for Umari, Nelson, and myself. Our boys have now to live wholly and solely on mboga, this simply means that they live by *grazing*. It is really extraordinary that they stick to us under the circumstances, they could do so much better (physically) for themselves by going over to the Manyuema, who would give them a couple of heads of corn a day for their work.

JAN. 17.—We had our cup of rice gruel (between three of us) for breakfast. Luncheon consisted of two corns each. Dinner: one cup of rice, and some magotty meat. We have negotiated for the exchange of a rifle. We receive 400 mohindi (heads of Indian corn) for it, and five cups of beans into the bargain. Kilonga Longa and all his chiefs have absolutely refused to give us any food at any other price.

JAN. 18.—Nelson sold a rifle to-day, for 4½ fathoms of very inferior calico; as he had hardly anything to cover him but one blanket. We now ration ourselves on two heads of mohindi three times a day, with mboga. Ismailia made a furious complaint that my donkey had eaten some of his corn. I begged off the poor animal's life by laboursome petition; the unhappy quadruped has now nothing on his bones to eat; otherwise my humanity might not have been so energetically applied. So I am now obliged to hire a boy, at three heads of corn per diem, to take care of him, and prevent his trespassing; otherwise he will surely be killed by these heartless barbarians.

The Manyuema men wear wooden blocks for sandals; these

have a projecting piece sticking up between the great toe and the second, so as to give it some steadiness. The fashion appears to be an Arab one.

JAN. 19.—On questioning the men who had accompanied Kilonga Longa, I learned from them that the natives of the forest are all cannibals; they are, however, ashamed of the practice, and would not eat human flesh in their presence.

Nelson took his first walk to-day. I am still unable to walk any distance. I tried a short effort of this kind on the day before yesterday, but the exertion was followed by a fourth relapse of my erysipelas. The Spring season is now in full progress here; every plant appears to be budding, and growing up with great rapidity. Spring commences in December.

A column of ants, of about four inches in width, and densely marshalled, has now been continuously passing through my tent for nearly twenty-four hours. So the length appears to be unlimited. I received a chicken and three cups of rice to-day from Kilonga Longa, for professional attendance, only a successful accouchement.

JAN. 20.—Very heavy rain to-day. There is a Manyuema doctor here with Kilonga Longa. His most important specific appears to consist in building a small house (like a hen's house), conical in shape, near the dwelling of any person who is starting off on an ivory expedition; this secures the safe return of the individual concerned. Each caravan is accompanied by women, who carry baskets with food, &c. These baskets are borne on the back, and suspended from the forehead—not carried on the head, as our Zanzibaris convey their burdens. The carriers do not, like our porters, cut their way through the bush; but trail along the native tracks, stooping under the low natural archways which the branches of the undergrowth form across the path.

The medicine-man, in treating the sick, prepares drugs from herbs; and makes white and red streaks, with coloured substances, on the surface of the body. The natives have great faith in his treatment; he is greatly respected and looked up to, and holds a very prominent position. There is also a man on K. L.'s staff whose sole employment is to repair guns. Another makes knives—with ivory handles. A large tusk of ivory (sixty lbs.) can be bought here from the

natives for a small iron ring. Every man who has any special accomplishment, such as those referred to, is called in Kiawahili a "*Fundi*."

JAN. 21.—Kilonga Longa visited us to-day; he said that the Zanzibaris had come to him in a body to ask for food. The poor creatures are, of course, anxious, as so many of their comrades have already died. He came to tell us that he could give them no more food whatever. Some of the Zanzibaris offered themselves as slaves; and we consented to this arrangement, provided they were fed for their labour till such time as we required them. This would not be agreed to. Accordingly, we can do nothing, as we were left here on the understanding that ourselves and our Zanzibaris were to be fed; and now we get little or nothing, so that we have had to sell the rifles of the Expedition, with the pious hope that we will be able to pay for them some day. Prices are now so exorbitant, that if we were to sell all the remaining rifles, it would give the Zanzibaris and ourselves but a few square meals. We even suggested to Kilonga Longa and his crew that our men might be sent to the friendly Washenzi to be fed; but the cautious chiefs said, "No; they might grow fat and strong, and then Mr. Stanley would return and take them away." It is sickening to the last degree to observe the diplomacy of these heartless wretches; it is heart-rending to us to see these poor creatures, who have done so much hard work for us, now staggering about as skeletons, while it is utterly out of our power to do anything for them.

The boy who watched my donkey has gone.

JAN. 22.—Kambola, an under-chief, came in to-day with loot; including some ivory. Umari, our interpreter, is very ill with acute rheumatism. I have recently learned that the Manyuema practise a primitive form of *massage* (as indeed do the Zanzibaris). They place the patient on the ground and stand on his loins, then pull, rub, and squeeze his limbs and trunk.

We arranged with a chief to build a small hut for our boys and Umari, who at present reside in the open. The hut is to be close to our tents, and he is to enclose the whole with a boma: all this to be done for a single rifle. I thought this rather a good bargain, as bargains go here.

It may appear strange that we two, our three boys, and

Umari, cannot do all this ourselves; but it is quite impossible, as it takes the constant attention of a couple of individuals to watch the tents and keep off the thieves. Besides, we are all skeletons; neither Nelson nor myself can walk more than a few yards at a stretch.

JAN. 23.—We are in a bad way for food. The chiefs seem to think that we have no stomachs. The picture cards from a "pack" or two, which I brought with me, got us many a meal while they lasted; but now the entire packs have been expended.

JAN. 24.—I was called out of bed last night to see the young goat, as it was bleating very much. I found it staggering about, and apparently in great pain. It died in ten minutes from the appearance of its first symptoms. It may have been stung by some poisonous reptile, or have eaten some poisonous herb. However, the Manyuema ate it, and I made no attempt to prevent them.

We will be obliged to eat our only milch-goat, the attendance of the kid being necessary to keep up the secretion of milk. It is the practice here to let the kid always run with the dam.

Last night, one of the slaves went to the river to draw water—a distance of about two hundred yards from the village. He was set on by his comrades on the way, and killed and eaten there and then. Food now seems to be really scarce, indeed!

The people are now existing, in a great measure, on banana and plantain root, which is very stringy and tasteless. The river, from which we draw our drinking water, is polluted with excrement; which is swept down by the torrents of rain. These people ape the Arab customs in every way. They wash their bodies periodically in the stream, and soil it with every imaginable variety of filth. They are disgustingly dirty in their habits; they squat down—men and women together—and act up to their belief that the calls of nature have a prior claim to those of decency. Our poor Zanzibaris are much more cleanly in their habits. I do wish the poor wretches could be made a little more comfortable than they now are.

CHAPTER X.

FROM FORT BODO TO THE ALBERT NYANZA.

Welcome relief by Lieutenant Stairs from our miserable existence at Ipoto—We part from Kilonga Longa and the Manyuema on the best terms—Incidents of the march to Fort Bodo—Scenery viewed from Kilimani—Nelson still very weak—Our reception by Mr. Stanley—Description of Fort Bodo—The men are employed road making—Arrival of the *Advance*—Stairs proceeds to Ugarrowwa's station to bring up the invalids—Mr. Stanley is taken very ill with sub-acute gastritis, engrossing all my attention—The castor oil tree—Method of preparing castor oil by the natives and Zanzibaris—My method of preparing the same—Progress of my patient—Seven Zanzibaris come in from Ipoto—Mr. Stanley continues to improve—List of nutritive medical comforts carried with us from Yambuya—We leave Fort Bodo *en route* for the Albert Nyanza, while Nelson and the invalids are left behind—My experiences of ulcers during the march through the equatorial forest—Hostile attitude of the natives—Ferrying the column across the Ituri River—Emerging from the forest, thus ending my twelve months of forest existence—Native tobacco—Fetteh, our interpreter, wounded—The natives attack us—Their way of passing the alarm from village to village—Peace arranged—First news of Emin Pasha or *Malleju*—Visit from Mazamboni, the chief of the district—Jephson goes through the rite of "blood brotherhood" with Mazamboni—We are mistaken for Wara-Sura, so explaining our hostile reception by the natives.

JAN. 25.—Kilonga Longa came up to me this morning (8.30 A.M.) with a broken Winchester rifle, which he asked me to repair. Of course I made a show of overhauling it, and trying what I could in the way of mending the damaged article. At 11 A.M. as he was sitting by my tent, he suddenly started up, and said that a suffari (caravan) was coming. After a few minutes, Ismailia came and said that his sentries had come in, and told him that a white man was coming—many shots were fired off, and a drum was beaten, to hail the advent of the stranger. We could scarcely speak for joy, as we anticipated some relief from our dreary existence of imprisonment and starvation. After a few minutes more, Stairs appeared, leading a column of the finest-looking, fat, muscular, glossy-skinned men I ever saw, the same men who had left us in skeleton form three months ago (less by two days). They

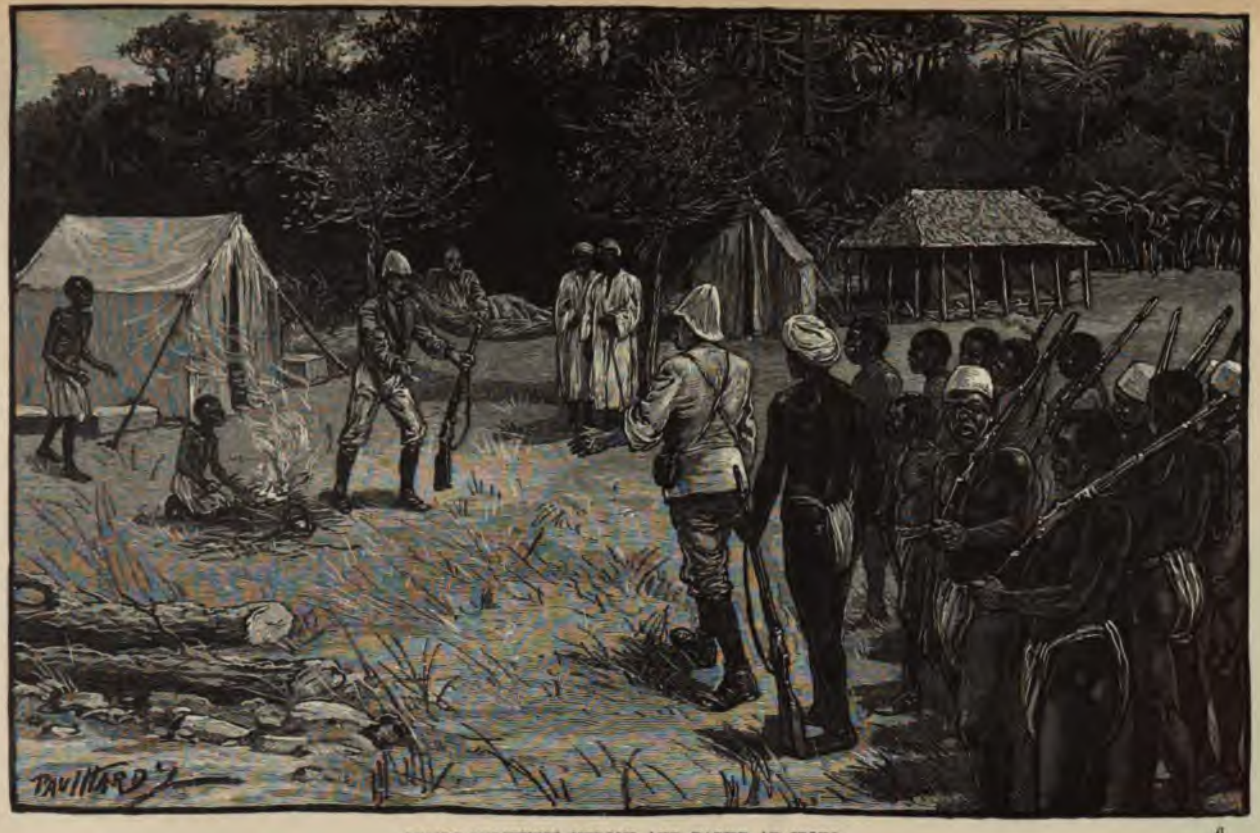
cheered, and we cheered; they fired a volley, and both Nelson and myself fired off every chamber of our revolvers in salutation. It was a moment of excitement, a reprieve from the death sentence which we had so long felt pressing over and around us. The men kissed our hands, and in every way appeared fully conscious that they were doing a good act in rescuing us. When here formerly, they were in the condition of serfs to the Manyuema wretches; now they paraded about with a manly pride of themselves.

Stairs told us what had happened since we had parted; how they had found food at a distance of ten days from here; had emerged from the forest into the open plain; how they had had some severe fighting on the way, that Mr. Stanley and Jephson are working hard at Fort Bodo, but still *without* news of Emin. He was delighted to see us, and our joy to have him back can hardly be described. He was prepared with his renovated band to bring away ourselves and our invalids, and almost all the loads; but he had brought nothing to pay for the hospitality of the Manyuema. We talked over all the events of the past three months; and, after an hour or so, we went to have a shauri with the chiefs. They were surprised that no pay was forthcoming for their goodness to us, but they consented to let us go—with our burdens. This was but prudent on their part, however, as with Stairs' men we could now easily sweep the camp, most of the strong men of the Manyuema being away on suffari. Stairs is a really good hearted fellow, and did not neglect to bring us plenty of food. So we killed the fatted calf, which on this occasion took the shape of a milch goat—our only all, excepting a single cup of Indian corn. We sat up late to prolong our rejoicings; and altogether I felt that this relief was the happiest event of my life. I had said several times, lately, to Nelson that I believed that Mr. Stanley would rescue us before the three months were ended, but Nelson did not feel quite so sanguine. I had felt the idea hover over me as a sort of prevision (? second sight) that we would be relieved within the three months from the date of Mr. Stanley's departure. A dreamy idea to this effect had encouraged me to keep up during many a weary hour of depression. As the news of our rescue spread around, our wretched men began to drop in, and their horribly skeleton-like outlines presented an appalling contrast to the appear-

ance of the men who had been brought back by Stairs. Many of our poor creatures were away at native villages; many more had died: some of them from the cruelty of the Manyuema; some from the immediate effects of starvation and disease; some, I have reason to believe, were eaten by our hosts, if the remains of a fire, and the presence of recently stripped human bones in its neighbourhood, can be taken as circumstantial evidence.

JAN. 26.—We felt to-day that we had received a new lease of life: so we set with vigour to do some packing and re-arranging of loads, selection of boxes, &c.; which we had commenced last night, but did not continue long. We had another shauri with the chiefs this morning; as usual, they begged everything they saw, but Stairs limited their appropriation to two rifles and a box of ammunition, which he gave to Kilonga Longa. This, with what he had already got from Nelson and myself, was very liberal payment indeed, for the dismal entertainment he had provided us. From Nelson alone he had got nearly £100 worth of material, including rifle, watch, &c., &c. Uledi went down with the crew for the boat, and met us by another road, when we had started.

A heavy fall of rain during the morning obliged us to postpone our departure from Ipoto for a couple of hours, but at 11 A.M. we were able to lighten our hearts, by turning our backs on our Manyuema hosts, to whose benevolence we are so much indebted. Before going, I offered my donkey to Kilonga Longa as a present; but he was refused. I then suggested that he might shoot him as food for his men, but this permission was also declined. I was desirous to get rid of the poor animal, as I had never ridden it, and did not expect to now; as it was physically impossible for me to bring it further on account of the great number of huge fallen trees which lay here and there in all directions in the clearing through which we were obliged to make our way. Sometimes we would have to march along the trunk of a tree ten or fifteen feet from the ground, and, as the poor donkey could not possibly be expected to take part in such gymnastics, I was obliged to surrender him to the inevitable. Accordingly, having brought him as far as I could—Zanzibar to Ipoto representing a fair pilgrimage—I asked Stairs to shoot my Arab steed, having failed to sell him.



STAIRS RELIEVING NELSON AND PARKE AT IPOTO.

We parted on the best terms from the Manyuema, bidding a friendly farewell to each and all, although I could have crucified every one of the wretches for their treatment of us and our men. We left some loads with Kilonga Longa which we are to call for again; among these is my hammerless shot gun, which I could have sold for food had it not been disabled by Ismailia.

We camped for the night at a distance of three miles from the Manyuema.

JAN. 27.—Uledi arrived at our camp with the boat yesterday, after we had halted for the night. We left early this morning, and halted at 10.30 A.M.; but owing to the difficulty in getting the section of the boat along, Stairs, who remained with the rear guard, did not reach our camp until 5 P.M. We had marched about three miles. Nelson is still very shaky on his legs: both he and I have had a very severe turn of indigestion; which we attribute to eating of the fat goat's meat, yesterday and the day before. I feel the fatigue of walking greatly; I drag myself slowly and painfully along, and am unable to keep up with the men.

JAN. 28.—I had another return of my erysipelas to-day; it always appears in the same place (around left hip, and extending down front of thigh). We stopped at 9 A.M., after a march of two miles; and camped for the night. The boat will hardly reach us to-night, on account of the obstructions in the way; produced by undergrowth, logs, streams, &c.

JAN. 29.—We marched till 11 A.M., doing about six miles. Stairs sent back seven men to one of the native villages in the rear, to recover two rifles which had been taken from our men last night by the Manyuema: these rifles were handed back to our party in safety. The boat arrived about 4 P.M.

JAN. 30.—We marched till 8.30 A.M.—about four miles. One of my invalids, Baraka, died on the road.

JAN. 31.—We marched about four miles, and halted for the day. Sudi Ben Ali and Khamis Wadi Zied died on the road. There is no food in the camp, and the weaklings are dropping out by the way.

FEB. 1.—We marched this morning till we reached a deserted village, where we secured a goat. The flesh of this animal was distributed to the weaklings and the boatmen—to the latter in consideration of their having the hardest work. When we had

made camp, the men went off searching for food, but found very little.

FEB. 2.—We camped at 10 A.M. in the morning, after a march of a few miles. In this course, we passed through a few ruined villages. We also passed a Manyuema caravan, returning with plunder, after raiding the surrounding country. They had with them a large number of chickens, with great quantities of bananas and corn. We envied them their acquisitions, however much we prided ourselves on detesting the means by which they have been obtained by these human harpies.

FEB. 3.—We marched five miles to-day. Stairs gave me letters to Mr. Stanley and to Jephson; as Nelson, myself, and all the men—except those employed in carrying the boat—must go on to Fort Bodo, and not wait for the boat, as this would cause great delay and more hunger. We calculate getting there by the 7th or 8th; Stairs—bringing up the boat—will arrive about two or three days later. I am to leave a letter for Stairs at Kilimani, on the right hand side of the door of a certain hut, saying how we had been getting on, and whether the natives had attacked us.

[The letter was found by Stairs in its place in due course.]

Had another relapse of my erysipelas to-day.

FEB. 4.—Our camp last night was at a village, on the side of a steep hill. We left it early this morning, with thirty-four loads, and marched to Mr. Stanley's old camp. Here was very little food; a certain amount of starvation prevailed amongst us, but we could live a little while on hope now, as we knew that relief was not very far off. On the march we passed a few villages, which had been burnt by the natives. This appears to be the almost universal custom here, whenever an enemy passes through a village, the natives leave, and burn it down. I saw a huge elephant within a few yards of me to-day. They are very plentiful in these parts, and destroy banana plantations wholesale.

FEB. 5.—We arrived this morning at Kilimani, where we got the first good view of surrounding scenery since we had left Stanley Pool. During the whole of this dismal interval no such thing as a landscape was ever exposed to our vision at any stage of our progress. We can now see over the tops of the forest trees—which had so long formed our

prison bars—to a distance of at least twenty miles around. There is, however, nothing but a dense covering of foliage to be seen over the face of the country, so far as our vision can reach.

The men are now collecting plantains, which abound here. The natives have deserted this village, most of which has been recently burned down. I am getting anxious about Stairs and his party, as they have little or no food, and no means of getting it; and they are relying on me to send them supplies from the Fort, when I have got there and seen Mr. Stanley.

FEB. 6.—We started early, but were soon obliged to halt for the day, on account of Nelson; who is still very weak, and, of course, has not much power of endurance; and we have no porters to carry him. Poor fellow! he has certainly been by far the greatest martyr of any of us to the relief of Emin Pasha; and it will require a large quantity of earthly glory hereafter to make up to him for what he has suffered.

FEB. 7.—We marched about seven miles to-day. We passed one of our leader's former camps; also a native (Washenzi) village, which consisted of a group of small round huts, built of saplings, and thatched with the leaf of the phrynium. We were obliged to dig holes in the ground to get some water to drink. This primitive form of artesian well, a few feet deep, when prepared, yielded us a modification of *aqua pura* which we felt squeamish enough in drinking; even after filtering and prolonged boiling, as it was both muddy and soft.

FEB. 8.—We started early, and arrived at Fort Bodo at 11 A.M. This station is situated in the country of Ibwiri. We entered with our flag flying, and fired a few rounds as a salute, to emphasise our advent. This performance is always gone through in these parts, whenever a caravan arrives at its destination. I met Mr. Stanley first of all, who gave me a warm welcome; then Jephson, who also said that he was glad to see me; they were both fairly well. Our leader was quite cheery. Nelson arrived at about 3 P.M., and received a hearty welcome from all.

The manner of entrance to this fort is almost as great a puzzle to a European as to an uninitiated native. The establishment has four watch-towers, and a granary filled with about six tons of Indian corn. Several huts have already been constructed; one for Mr. Stanley, one for the officers,

one for the goats, two for the Muniapara or head-men, and ten for the other men of the Expedition. They are all whitewashed, —with lye made with white ashes, as a substitute for lime. The ashes were procured by burning the huge logs which had lain about in the clearing. Each hut has very thick walls, built of mud, with a strong skeleton frame-work of interlaced saplings; which, in their turn, are kept steady by strong poles fixed deeply in the ground. The roofs are sloping, and thatched with leaves of the phrynium; and each has a good verandah to furnish a cool shade. Our leader has a great fancy for making roads; when a standing camp has been made, the first thing he does is to make a road or two, in some direction which may be utilised. Two have been constructed here, the "Avenue Nyanza," and the "Avenue Manyuema," indicating respectively the line of our future advance, and that which we have already traversed.

There is a rich supply of plantains over a radius of a couple of miles from here. Here is also a good water supply. We have three cows, one calf, and about twenty goats. Accordingly, a milk ration, of nearly a cupful to each European, is supplied night and morning. About four acres of the adjacent soil has been thoroughly cleared, tilled, and planted with Indian corn, and about ten acres more are now undergoing the clearing process, in preparation for the sowing of corn and beans. Every one looks well-fed and happy. The influence is contagious: we seem to have got under the benign influence of the lucky stars at last! An enormous amount of manual labour has been done here since the arrival of the advance force; building and fortifying the encampment, clearing and tilling the farm, &c.

A party of men were sent back, to assist Stairs and his men in bringing up the boat.

FEB. 9.—I received orders this morning to go out and take charge of a party of axe-men, in the extension of the Avenue Nyanza. About twenty members of our collected force are still laid up with ulcers. The work commences at 7 A.M., and goes on till 6 P.M.; with an interval for food and rest (11—12.30). The sun is intensely hot; but the work must be persisted in, with the object of having a full granary by-and-by. Still *I never see any sunstroke*, and I often wonder at it; not so much in the case of our black friends—who are protected by

nature with their cutaneous pigment and sub-cutaneous oil—as in our own case, who have no such natural shields, and use very little artificial protection.

FEB. 10.—Jephson was sent on suffari to-day, with thirty men. He started on fifteen minutes' notice, taking nothing with him but what he stood in, with the addition of an old mackintosh. He wore boots of his own manufacture, of the fashion of Veldtschoons, which in all probability will be left buried while crossing some muddy marsh, where elephants love to wallow.

Of the twenty-nine men who had been left with me at the Manyuema camp: eleven perished there, three others have succumbed on the march, and I am afraid that many of those who are still behind will never reach here.

FEB. 11.—The healthy men are hard at work—cutting the logs into pieces, and clearing the ground to prolong our avenue. Now we appreciate the value of the hoes, the billhooks, &c., &c., which our leader's previous experience had induced him to bring with him.

FEB. 12.—Stairs arrived with the boat. Most of the cutting of huge trees, and subsequent splitting of the timber, was done with native axes—of all sizes, made in native foundries from crude iron ore.

FEB. 14.—Jephson returned from his excursion to-day, bringing nine goats.

FEB. 16.—Stairs left this morning with twenty-three men and two boys. They are proceeding to Ugarrowwa's station—a march of about 200 miles—and are to bring up the men (fifty-six in number) who had been left there (invalided) on our way up. He expects to be back in a little over a month. Twenty of his men are to go on to meet the Rear Column, with letters from Mr. Stanley, and to show them the way hither. Each of them has got a gratuity for the work. Mr. Stanley is to go on to the Albert Nyanza, for the second time, taking the boat with him, and will be accompanied by Jephson. I am to be left here, with Nelson and the invalids. I do not like this: so am asking our leader to bring me on to the lake. Poor Nelson is broken down generally, and is ailing badly with ulcers and rheumatism. Mr. Stanley says that he expects to be back here in four months. If Stairs returns with the men within one month, he is to follow up Mr. Stanley who

will go slowly so as to give him the chance of catching him up.

Our men are now working hard here, every day, in the construction of a ditch, ten feet wide by ten feet deep, extending around the east side of the Fort. They have already gone to even a greater depth than this, in some places, without striking the rock.

FEB. 17.—Mr. Stanley asked me to examine his arm to-day. He has been suffering great pain, and is looking worn and anxious, and sickish all over. He still, however, preserves his appetite. I found that he has been suffering from inflammation of one of his axillary glands (on the left side) which will probably go on to suppuration. I recommended to keep it continuously covered with hot poultices of banana flour, or Indian corn meal, till suppuration is promoted.

FEB. 18.—I was sent for at 3 A.M., to see Mr. Stanley. He was suffering from great pain in the epigastric region; and, indeed, apparently over the whole surface of the abdomen, with a good deal of hepatic tenderness, especially in the vicinity of the gall-bladder. He said that it is the same illness which had brought him to the brink of death on each of three former occasions. One of these attacks occurred when he was residing in chambers in Bond Street, and had lasted three months. So he is naturally very anxious about the result.

FEB. 19.—The illness of our chief was, of course, my great care to-day. I kept him on an exclusive milk-diet. The milk was always given cold, and diluted with almost an equal quantity of water. There is still great pain and tenderness over the stomach, accompanied by very distressing vomiting of a dark fluid. The rejected matter is evidently stained with some blood. There is also great flatulence. He was quite sleepless during the night. I applied turpentine stupes, and gave forty minims of tinct. opii by the mouth; followed, as the retching continued, by half a grain of morphine, administered hypodermically (at bed-time). The latter gave great ease. I sat with him all night and all day; the vomiting continued, at short intervals, all the time. The tongue is covered with a thick white fur, and the skin is bathed in a profuse clammy perspiration. The pulse and respiration are both very rapid: he has fever, which is now assuming an intermittent type. This form of fever develops when one is prostrated in this climate

from any cause, be it what it may. I applied poultices, made with meal prepared from Indian corn, and sprinkled with laudanum over the surface. The stomach is very irritable.

Feb. 20.—Mr. Stanley still very ill, and suffering intense pain; so that I now give a large dose of morphine morning and evening. I have now used up my stock of castor-oil, but I will be able to get a fresh supply, as the castor-oil tree is found growing all the way across equatorial Africa, and the natives use it a good deal for rubbing over their bodies, especially when they are suffering from any local pain. So I collected a quantity of the seeds and expressed the oil; which I find quite as good and as effective as that which I had brought with me. The only difference appeared to be that the oil of my manufacture was not so clear and, accordingly, of course, not so pretty to look at. I have used this oil as a soothing application to the men's ulcers, and gave it to them as a medicine when required. I also encouraged them to anoint themselves with it, as it made the unhealthy skins smooth and glossy; and the rubbing was in itself a good exercise—a self-imposed massage, in fact—while a portion of the fatty constituents were undoubtedly absorbed. I have had the opportunity of noticing during these experiments, that the application of the oil over the cutaneous surface gave the individual a comfortable sensation of comparative coolness during exposure to the sun; and I learned that it is customary with the natives, when they are obliged to undergo a prolonged exposure to the solar rays, to prepare themselves by smearing themselves all over with a thick layer of oil or fat. Our Zanzibaris gave me a very favourable account of its cooling effects.

The castor-oil is prepared by the natives (and also by our Zanzibaris) by toasting the seeds, in a pot or pan, over live embers for a short time, then putting them into a large *khino* (wooden mortar), pounding them into a pulp, and boiling this pulp with water. The oil floats to the surface of the water during the ebullition; and, when cool, the palm of the hand is placed in contact with the layer of oil, some of which adheres to it, and is dropped into the vessel prepared to receive it, by drawing the oiled palm of the hand tightly, from heel to finger-tips, athwart the brim. The oil, of course, slowly trickles down to the bottom of the vessel; and this crude performance is repeated till the entire film has been

removed from the surface of the boiled water. The process is a slow one, as may easily be understood from the description, but quite rapid enough for ordinary African tastes.

The oil prepared in this way was quite dark in colour, having a burnt appearance and unpleasant odour, due to the fact that the shell of the seed was always burnt during the roasting process; and this scorched portion was always pounded up, and extracted with the rest. Accordingly, I was induced to try and patent a new process of preparation, by which some of the unpleasant characteristics of this home-made oil might be removed: I had a quantity of seeds toasted, after which the burnt shells were all removed by careful picking, and the seed alone was subjected to the pounding and boiling process. The resulting oil floated to surface of the water as clear and translucent as any specimen of the "cold drawn" to which I used to be treated in my boyish days. Both Europeans and Africans have taken kindly to this oil of my manufacture; and drink it whenever the production of its effects are desirable. It is also used for inunction, and has turned out handy in the cleansing and brightening of our rifles, as well as forming a soothing dressing for ulcers.

Mr. Stanley is still very poorly this evening; he sweats most profusely, and when he sleeps for any little time, is tortured by horrible dreams. I am keeping turpentine stupes constantly applied. The gland in the arm-pit is kept assiduously poulticed—with extract of belladonna smeared over each new poultice. It is very painful and inclined to suppurate; but I have thought that there was a chance of its undergoing resolution, on which account I used the belladonna rather copiously.

Feb. 21.—Jephson sat up last night with Mr. Stanley, as I was knocked up for want of sleep; having sat up two nights in succession. He feels a little better now, but I am still very anxious about him; as the ease which he has experienced for the last few hours is really due to his increasing collapse. His pulse is extremely quick and weak, and his entire condition very unpromising. When first called to see him in the early morning, I thought, from the prominence of the hepatic symptoms, and the great tenderness over the situation of the gall bladder, together with excruciating pain, that the symptoms might be simply those of the impaction of a gall-stone

but there is no doubt now that the case is one of sub-acute gastritis, with intense congestion of the liver and spleen. He cannot sleep, night or day, till he has had a large dose of morphia, followed by Sali's massage of the feet and legs. I keep two boys always in the room at night (or at the door sleeping) to be ready for this work, and also to be ready to fetch whatever may be wanted; but they are so fond of sleep, and snore so boisterously, that I am obliged to rouse them every few minutes, to prevent them from disturbing him.

The pain recurred badly this evening; so I gave a hypodermic dose of morphine, with a corrective of atropine. I also give him bismuth and bicarbonate of soda in his milk. He is feeling easier to-night, but is extremely weak.

FEB. 21.—I sat up the whole of last night, continually applying warm stupes over the stomach and liver, and poultices to the affected armpit: for food I gave him milk and water only. The cow's milk agrees with his stomach much better than the goat's; the latter being too rich. We have but one cow, and a couple of goats; if these were to die, my patient must follow; for all our European provisions—excepting some blue-mouldy tea and coffee—have disappeared, months ago. He had his first good sleep to-night; it lasted from 11 P.M. to 2 A.M; and he afterwards dozed at intervals. He feels somewhat stronger to-day; but it is still touch and go with him: he is excessively weak, even now. His tongue is still heavily coated with fur. At 2 A.M. this morning, on awakening from sleep, he felt a return of the pain; so I gave him another hypodermic injection of morphine and atropine, followed by the application of hot stupes, &c. I was glad to see that he fancied a short smoke this morning, and chatted a little. I have no doubt this attack of gastritis was brought on by indigestible food—forest fruits, leaves of trees, "popped" (toasted) corn, &c., &c.—used when the stomach had already been greatly reduced in tone and secreting power by prolonged starvation; and all this assisted by the use of large doses of quinine to allay the fever from which he had very frequently suffered.

He hurt his inflamed arm to-day; so it is very painful and greatly swollen this evening: however, I am glad to say that he is in much better spirits, so his constitutional condition is decidedly improving. I gave him a hypodermic dose of

morphine and atropine at 5 P.M., and repeated this at 9 P.M.; so I am hoping for a much easier night. These medicines are all contained in Burroughs and Welcome's tabloids, which I have found extremely satisfactory; as they are very soluble, while they occupy very little space, and have never lost their strength. I have never used any therapeutic preparations at all so convenient or so reliable. The medical departments of the services should abandon the present clumsy and inconvenient system of carrying fluids, pills, powders, &c., and adopt this mode of administering medicines: as it is safer, the dose is more reliable, and transport so much easier—they occupy less than quarter the space and weight; also one medical officer could attend to four times the number of patients.

FEB. 23.—Jephson sat up with my patient last night. He slept but two hours; however, he had dozed occasionally during the day. The pain in the stomach has greatly diminished; so I ventured to give him a warm bath. He always has bismuth and soda in his milk, which he sucks through the india-rubber tube of my pocket filter, as he is still quite unable to sit up—or even turn round in his bed—without assistance.

FEB. 24.—I sat up with my patient last night. At 9 P.M. he had a very severe attack of spasmodic cough, which caused him great distress; there was considerable difficulty in breathing, and in getting up the phlegm. I gave him inhalations of eucalyptin and the warm steam from boiling water, a supply of which I kept near his bed, so as to saturate the atmosphere he breathed. I also applied hot turpentine stupes over his chest. After this treatment he perspired profusely, the cough subsided, and he slept fairly well.

He coughed a good deal in the course of the day, so I took all the precautions I possibly could to avoid draughts, by stopping up all chinks in the wall. He is extremely anxious to go out, and see how the work is progressing around the Fort; but I cannot, of course, consent to this; as his life is still, seriously, in great danger. His mind has wandered a great deal during the course of his illness, and he is very difficult indeed to control; as he is very prone, under all circumstances, to do what he likes, regardless of advice, friendly or otherwise. He is quite delirious this evening.

I gave him another inhalation of eucalyptin this afternoon.

There is now very little pain over the gastric region; and I hope that the improvement will continue, if he will only be careful, and do as I wish him. I gave him a little arrow-root and water, as his only nourishment.

FEB. 25.—Jephson sat up with Mr. Stanley last night. The fever is diminishing, and the cough and bronchial catarrh are a good deal relieved. The arm is still very painful, but as no pus has formed, I am now painting it with tincture of iodine. The tongue is becoming cleaner, although very slowly. He is able to take milk and arrowroot to-day; and with some little relish. The latter commodity is my own private property, as the small store of tins supplied to the Expedition have been exhausted. He slept but two hours last night. He insisted on being carried round the Fort to-day, to see the state of the earth-works; this, although he was actually in so exhausted a condition that he could not raise himself from the bed. He was carried by his Zanzibaris on a door; in the horizontal position, and as comfortable as I could manage to make him under the circumstances. As he was borne along, the men ceased working, greeted him with their best salaams, and everywhere expressed hearty congratulations on his recovery, and their delight on seeing him again. I should mention that during his confinement to bed, both the head-men and their subordinates were continually pressing for interviews with him, so as to have an opportunity of expressing their sympathy in his illness. I was, of course, obliged to keep them away, for he was in such a condition during a great part of the time, that a single interview would, almost to a certainty, have decided the fatal issue.

FEB. 26.—I sat up last night with Mr. Stanley; he slept fairly well, but suffered a good deal from the pain in his arm. He felt stronger this morning, and sat outside for a little; supported in an arm-chair. This change to the open air—from the cramped space and limited field of view obtainable within the hut—had a good effect, and raised his spirits.

FEB. 27.—He was greatly better last night, so that only his servants sat up with him. The pain and tenderness over the stomach and liver have nearly quite gone; but his arm is very painful. He had a little beef-tea and milk to-day.

FEB. 28.—Only the servant sat up with Mr. Stanley last night. In consequence of the formation of an abscess in his

axilla, there is necessarily a great deal of tension and throbbing, accompanied by the usual constitutional disturbance; but his other symptoms are improving very fairly.

FEB. 29.—I sat up last night, as he is so restless. He became so uneasy at 1 A.M., that he would not stay in bed; and we were obliged to place him in his chair, where he remained till 6.30 A.M., after which he lay down again.

He now goes out every day, as his gastritis has subsided; however, he is not yet out of danger: his tongue is still thickly coated with a white fur. He is able to walk a few yards with a little support.

MAR. 1.—I sat up with Mr. Stanley last night. He slept fairly well, and was able to eat some sago this morning. He took some chicken-broth during the day, and, altogether, is doing well. His temperature is now normal.

MAR. 2.—I gave him 15 grains of quinine by enema to-day, as a prophylactic against the fever. I sat up with him last night, the third night in succession. Like most invalids he is very irritable.

MAR. 3.—My patient slept badly last night. He had some arrowroot (made with milk) during the night, and took chicken-broth to-day. His tongue is very red and beef-steaky at the edges; the dorsum—on either side of the septum—is covered with a white fur; so that his condition is still far from satisfactory, although he is getting a good deal stronger.

Ten men are sent out every day, as ruga-ruga, to hunt off the natives, who hover around the fort with mischievous intentions.

MAR. 4.—My patient now takes sago, milk, and chicken-tea by turns. Last night seven of the Zanzibaris, who had been left at the Manyuema camp at Ipoto, arrived here with only one rifle among them—this belonged to a man named Pyrangani. The adventure was a very plucky one on their part, as it represents eight days' good marching. The poor creatures are awfully thin and worn. They told us that two men had died at the Manyuema camp since I left, three others remain there, who are still unable to march.

MAR. 5.—Mr. Stanley has had a severe attack of fever to-day; his temperature is 106°. It has, of course, worried and weakened him. His tongue is cleaning slowly.

MAR. 6.—Mr. Stanley has high fever to-day. At 2 P.M. I gave him 25 grs. of quinine.

Rain fell in torrents during the greater part of the day. I opened the axillary abscess, having first given a hypodermic injection of cocaine as a local anæsthetic. He is suffering from hectic this evening.

Jephson is now down with intermittent fever; Nelson is still very seedy, so that I am the only white man who remains "fit."

MAR. 7.—Mr. Stanley's arm is less painful this morning.

MAR. 8.—I still keep the arm regularly poulticed, etc. My dressings and drugs are all running short: another unpleasant contingency to deal with. But I am making extensive use of my own castor-oil, which I give freely to the invalids.

Nelson is now doing pretty well; he suffers a great deal from the itching which is one of our plagues, and has taken to trying a medicine used by the natives as a palliative for this symptom, and which is prepared from the stalk of the plantain.

MAR. 9.—Mr. Stanley had a good night till 5 A.M., up to which time he slept soundly. He was then aroused by the pain of his arm; a fresh hot poultice was then applied, and gave a great deal of relief. He is entering on another course of the wretched "African fever." The tongue is still coated with a thick white fur; he sat in the shade for a good while to-day in his big easy-chair.

MAR. 10.—He is now able to walk about a little, so he was out to-day for some time. He also ate some roast chicken.

MAR. 11.—My patient is now rapidly improving. He feels much stronger, and is constantly asking for food. Two of our men have been killed by the natives, Kamwaiya and Saramini; another, Nuni Pembi, was wounded in the leg.

MAR. 12.—Mr. Stanley is improving: he continues to eat chicken with a good appetite. I had a severe attack of fever last night, which was brought on by a wetting. I have commenced to construct an ambulance or landau for Mr. Stanley's use, in which he is to be carried. It consists of portions of cow-hides sewn together by thongs; and will be suspended from a bamboo pole, carried by two of the Zanzibaris. The frame is also to be made of bamboo-cane; and the conveyance weighs about 25 lbs.

MAR. 13.—Very heavy rain to-day: which caused complete

suspension of work for the time. Stairs will be due on the 18th inst., so I have been thinking a good deal of him to-day.

MAR. 14.—Mr. Stanley took a dessertspoonful of quinine and orange wine. He has a good appetite and is improving; but is still weakly, from the effects of his terribly severe illness. I finished his ambulance conveyance to-day, in which he can lie down or sit up as he pleases; and in which he will also be effectively shaded—from sunshine and rain—by a complete roof. He took some warm food to-day; for the first time for thirty days.

MAR. 15.—Mr. Stanley still improves. He took some more quinine to-day.

MAR. 16.—The affected arm is healing rapidly, so I have left off poulticing, and now apply wadding. He is now able to put it through a sling for the first time.

The following is a complete list of the nutritive medical comforts which were carried for us six white men when leaving Yambuya:

No. of Box.	Contents.
60 . .	Brandy, 1 dozen.
27 . .	Liebig, 2 pots; arrowroot, tapioca, sago, 1 tin each.
23 . .	Liebig, 2 pots; sago, 1 tin.
10 . .	Liebig, 4 pots.
14 . .	Tapioca, 2 tins.
2 . .	Liebig, 6 pots; tapioca, 1 tin; sago, 1 tin.
2 . .	Sago, 1 tin.

Total: Brandy, 1 dozen; Liebig, 14 pots; arrowroot, 1 tin: tapioca, 4 tins; sago, 4 tins.

MAR. 17.—I filled the magazine with ammunition; and, as many boxes were nearly empty, I filled them, leaving three empty boxes which would only be a useless incumbrance in marching.

MAR. 18.—Stairs was due yesterday, but did not turn up.

MAR. 19–22.—Still no sign of Stairs. A general parade was held (full strength): 141 men and seven Muniaparas (chiefs). Forty-one men, in charge of one white officer, are to remain here to hold the fort—with twenty-six rifles—during the absence of the main body. Mr. Stanley—with Nelson, Jephson and myself—had some target practice yesterday (18th).

On the 19th and 20th, Mr. Stanley spent a great part of each day at the river, with the workmen. The weather is very bad; and he was drenched with a heavy shower of rain. I

wanted him to go in, and that I would look after the work, as he might very probably bring on a return of his illness by this exposure: but he refused.

I tried an Indian remedy for fever; dose, 40 to 100 drops. I cannot say that I observed any very pronounced results from it.

MAR. 23.—Good Friday. This is the last day of our public works at Fort Bodo, and the men commence to-morrow to prepare for their departure to the lake (Albert Nyanza). The men have been pretty well exercised for a good while in road-making, although it is hard to see the future utility of this piece of engineering. However, the work did them good; it was capital exercise; and, certainly, often kept them out of mischief.

MAR. 24–30.—. . . .

MAR. 31.—All the men fell in to-day, and each man had his load told off. Jephson and myself were obliged to take our tents, minus the poles; as we are so short of carriers. We hope to provide for nocturnal comfort by cutting poles in the forest every evening, when we halt for the night.

APRIL 1.—Ready to start for the Lake to-morrow.

APRIL 2.—Left Fort Bodo this morning *en route* for the Albert Nyanza. Our force numbers 122, including boys. Each man has got ten rounds of ammunition. Jephson and myself accompany Mr. Stanley, each in charge of one company. Nelson remains in command of the fort, with twenty-seven rifles. We started at 11 A.M.; we were prevented from moving sooner by the heavy rain which fell all morning. We marched till 4.30 P.M., when we halted in the forest, having gone over a distance of eight miles. When we had stopped, Mr. Stanley sent for me to go and see him in his tent; he was complaining of pain in his knee, and also said that he anticipated an attack of fever; the pain was either due to acute rheumatism or a movable cartilage in the joint.

Most of the men left at the fort with Nelson were invalids: suffering from large ulcers, and the general effects of starvation. Hardly one of them weighs over 100 lbs. at present. The dreadful debility—which is chiefly the cause of the rapid spreading of these devouring ulcers, and, when the latter have spread to a certain extent, becomes a necessary result of their presence—is one of the most dreadful enemies with which we have had to contend during our sojourn

in the African forest. When the resistance of the tissues has been reduced to a certain (low) level, every slight abrasion of the skin refuses to heal—especially if on the legs—and becomes the centre of a spreading sore. The very worst among them have been distinctly traceable to the irritation produced by the bites of flies, which had flown from the surface of an ulcer whose secretions they had been imbibing and conveyed the infectious discharge to the previously healthy skin of another individual, or to another part of that of the same person. A bulla is sometimes seen to form on the infected spot, which—in the vast majority of the worst cases—is below the knee; this is filled with a dark-red serous fluid, and soon breaks, leaving a ragged sloughy surface exposed. From this starting-point, the sloughing process, in the cases of those individuals who have previously been greatly reduced by starvation, spreads with appalling rapidity; and destroys the various tissues in the unsparing way that hospital gangrene is known to do. The edges are livid in colour, and horribly ragged in outline and texture; the tissues beyond them are infiltrated, and "boggy" to the touch. The subcutaneous and muscular tissues yield most readily; so that, after a time, shreds of tendon and edges of aponeurotic sheaths are seen lying across the floor and sides of the ulcer, and sometimes trail the ground; the nerves and vessels are treated with greater respect for some time, so that they are completely dissected out, and may be identified in their proper anatomical positions; but bye-and-bye they, in their turn, also yield. The ensheathing membrane of the bones is afterwards laid bare, and shares in the necrobiotic change; and, as an inevitable result, the superficial layers of osseous tissue perish, and undergo exfoliation. The edges of the ulcer always become irregularly undermined as the growth of the sore proceeds; it is under cover of the shade so formed that the rats of Ipoto and of Fort Bodo often sought a temporary refuge. The loss of tactile sensibility over the diseased surface favoured these horrible gymnastics of the rodents of the forest. The loss of vascularity occasioned by the coagulation of the blood in the surrounding vessels, gave the whole of the eroded surface an ashen-grey appearance, as if all colouring matter had been removed from the tissues by a very crude process of bleaching. But high above all the signs and symptoms of the ulcer of the E.P.R.

Expedition, towers that characteristic smell which is invariably present—not only to the sufferers and their medical attendant, but to every individual member of our force, and to every white officer, whether in camp or on the march—one, the memory of which will, I think, always remain with me on this side of eternity!

APRIL 3.—I gave Mr. Stanley 20 grains of quinine this morning. His knee is giving him a good deal of pain, although he is carried all the time. The pain is situated at the inner aspect of the joint, over the internal lateral ligament —the usual site of synovial pain—and is, I have no doubt, rheumatic in its nature; the attack being in all probability precipitated by the effects of exhaustion, combined with mental worry and anxiety. We marched for five miles to-day. We have 89 loads with us, all told.

APRIL 4.—We marched five miles to-day. Jephson had very high fever.

APRIL 5.—There was heavy rain this morning. We marched seven miles to-day. Mbaruku, our kilongosi (guide), fired two shots at a native—who is said to have aimed several arrows at him, and wounded him with one; we suspect, however, that our ambitious guide merely scratched himself for the sake of the notoriety and sympathy which he calculated that it would bring him. So absorbing is the thirst for *fame* even in the heart of Africa, and under the most discouraging circumstances!

We had some gymnastics—in the way of tree-climbing—this morning. This was indulged in for the sake of the view, as we could not see more than a few yards in any direction when on the ground. Some of us thought that we had sighted a lake in the forest from the top of a high tree.

APRIL 6.—We started early, and halted for the day at about 10.30 A.M. Mr. Stanley uses "Jacob's Oil" for his knee, and says that he finds it useful. We reached a banana plantation, where we found good bananas; there were many vessels discovered, which were filled with pombè (banana wine); this was at the base of "Mount Pisgah," from which Stanley first saw the "Promised Land."

APRIL 7–9.—Creeping along.

APRIL 10.—We reached the Ituri River. The natives assumed a hostile attitude, and made threatening movements

from the opposite bank, where they thought they were safe from us—the river lying between. Some shots were fired to clear them away. Jephson then quickly screwed together the sections of the boat, and placed her in the water; when I was sent with a party to hold the opposite bank, while the column was being ferried across. The natives disappeared into the woods as we approached the bank, making, as they went off, a furious row, not unlike that of a pack of hounds in full cry. In the huts which they had temporarily erected, we found some bark-cloth, some iron bangles, bracelets made with human teeth strung together, &c. Also about 10 lbs. of salt, which was very welcome indeed, as we finished ours some months ago.

April 11.—We marched to the open plain. Our chief sent me ahead of the column, to find the nearest point of emergence from the forest; which I did—at the end of a march of an hour and a half: thus ending my own forest existence of nearly twelve months. It *did* feel as a deliverance: I fancied that I could realise the feelings of Bonnivard when, after his six years of dungeon life in the Castle of Chillon, he was again able in freedom to look over his beautiful and beloved Lake of Geneva. I thought of Christian as his burden rolled down from his shoulders at the foot of the Cross; I re-echoed the enthusiasm of our leader, and the sentiment which dictated the baptism of his Pisgah; and—gravitating again to a more earthly mood—I thought, as I had pretty often thought during our forest life, of that celebrated monarch Nebuchadnezzar, and fancied that I could picture the train of his ideas on being restored to shelter and luxury, from his prolonged banishment to exposure and grazing. Last night Jephson and I gormandised on a real aldermanic dinner—of goat, chicken, and beans. We smoked our native tobacco, in order to complete our happiness; but we soon grew pale, and became very faint and sick, the dose was stronger than we had calculated it to be; this pure native growth being much more potent than that which we have recently been accustomed to.

April 12.—We marched about five miles, and halted in a village, in which the natives are very wild and warlike. They surrounded us on all sides; and showered their arrows in amongst us, in every possible direction. Fetteh, our only interpreter, was severely wounded by an iron arrow, which

passed obliquely through the lower end of the sternum, and evidently penetrated his stomach, as he vomited up great quantities of blood, and sank into a state of extreme collapse. Arrows flew into the camp from every side, so that parties had to be formed, and sent out to clear off the enemy. Sentries were posted high up in the trees; on platforms of native manufacture, which had been placed in these positions for the advantage of the "look-out" which they afforded. All our able-bodied men were sent with billhooks and knives, to clear away the tall grass and brushwood for a considerable distance around the camp; so as to leave no lurking-place for the enemy (as we knew that they are very dexterous in concealing themselves in the tall grass), and so that our rifles could play on them before they rushed our position.

In order to prevent our men from separating confusedly in the decidedly dangerous position they occupied here, Mr. Stanley threatened them very strongly; nevertheless they continued running wildly about looting chickens: so he fired a shot at one, so as to frighten them, and bring them to some sense of their disorder. As even this did not appear to have much effect, he fired at Dick, wounding him slightly in the heel, but not incapacitating him for duty. This substantial warning had the result of bringing the men together, and quieting their excitement.

We then proceeded to construct a boma around the camp. The sentries on the "look-out" in the trees had narrow escapes from being hit by arrows, and they were busily occupied in keeping off the natives who prowled about in the long grass close to our huts.

April 13.—I gave my knee a very nasty sprain to-day. We were obliged to carry Fetteh on the march, as he is very weak; being quite blanched from vomiting of blood, and the shock which he has suffered. He is conveyed in Mr. Stanley's ambulance landau. I am obliged to feed him by enemas, as I cannot venture to put anything into his wounded stomach.

During the whole night, the natives kept calling to one another from the tops of the surrounding hills; and their ringing voices can be heard for miles around. They were evidently passing the signal of alarm to one another—all through the surrounding country. Their voices were terribly distinct in the stillness of the night, and some of them were

so close that we anticipated an attack on the camp. So we got some of the men under arms, and strengthened the outposts; but nothing happened to disturb us further; and, in the morning we found that none of the natives had come within a mile of our camp. I have noticed this peculiar transmission of voice before, during the Nile Expedition for the relief of Gordon. The natives there understood one another distinctly in shouting across the broad expanse of the Nile. The practice of savage life has a great deal to say to it, I am sure. The atmosphere also favours the exercise of the vocal powers, but the result is undoubted. They can understand each other at a distance at least six times as great as that through which Europeans can make themselves heard. The natives on the Congo were also in the habit of communicating with each other across the river, where it is over a mile in width. In the latter case, the effect was, of course, helped out by the well known facility with which sound waves are propagated over smooth water surfaces; but even after making liberal deductions for the influences furnished by air and by water, a large balance must still be credited to the wild and free exercise of the vocal chords and intrinsic laryngeal muscles which the cramping limits of civilized communities absolutely forbid.

April 14.—We marched to a high range of hills, and halted on the site of a camp formerly occupied by Mr. Stanley. As the natives were collecting in an ominous manner on the surrounding hills, we fired a few shots to keep them off. We occupied a good position on the top of a small hill. The place could easily be made very safe: its only drawback being that it is rather far away from the water. After an hour or two of observation, we found that the natives did not appear very anxious to show fight; so we sent out some of our men unarmed in order to convince them that we meant peace and goodwill, and to try to get them to make terms with us. By this time a boma had been constructed about our camp.

After some little time, the natives began to come into our camp, one by one; each carrying a few blades of grass in his hand, as a token of peaceful intentions. The first who ventured in was a typical Mhuma, tall, slender, and of graceful build, with high forehead, thin lips, slender nose, and small ears. These men, on coming in, crawled up in front of Mr. Stanley, and crouched down before him in a very submissive attitude. They

told us that a *Mzunga* (white man) with two steamers, had come down to the south end of the Albert Nyanza; where Mr. Stanley had been when he made his first visit to the lake, in December last. Now we have heard directly, for the first time, of Emin Pasha; and we at least know that he has been lately alive, and not far off. It is the first substantial encouragement that has been offered to us of the ultimate success of our tedious pilgrimage. They gave Emin Pasha the epithet of *Malleju*, "the bearded one;" and gave glowing descriptions of the huge iron canoe in which he travelled over the surface of the lake, and which vomited forth sparks of fire, and enormous volumes of dense smoke. Their impressions seem to have been similar to those which filled the breasts of the West Indian aborigines on witnessing the arrival of Christopher Columbus and his followers.

They explained to us that their first shyness and tendency to hostility were due to the fact that they had taken us for the Wara-Sura, those terrible sharpshooters of King Kabba Rega, who plundered their villages and farms, and devastated the country at periodic intervals.

April 15.—We remained all day in camp: received visits from Mazamboni and his satellites. Mazamboni is the chief of all the surrounding neighbourhood. In order to thoroughly seal our friendship, which had advanced without interruption so far, we were obliged to perform the rite of "blood brotherhood." Jephson was selected to be the martyr in the good cause of the Expedition. Mazamboni and he sat on the ground, facing each other, and with their legs extended: Jephson's right leg was then elevated, so as to rest on Mazamboni's left; Mazamboni's right leg was steadied on top of Jephson's left. Marabo, a Zanzibari, who understands these ceremonies, then procured one of my lancets, and made a small incision on the inner side of Jephson's left knee, and one of similar dimensions on the corresponding side of Mazamboni's right knee. When the blood flowed, some salt was rubbed into either wound, a few mysterious signs were made, Marabo made a few appropriate remarks, and the ceremony was concluded: we were all united in the bonds of eternal friendship.

They told us that they had heard of two white men on the lake. These, we conclude, must have been Casati and Emin. Mazamboni sent us a present of six goats and one calf. Fetteh

was strong enough to-day to interpret a little for us; and he speaks the language best. The natives seemed very much afraid of our rifles; they have been already attacked by riflemen—when their country was ravaged, as it has been repeatedly, by the Wara-Sura (sharp-shooters) of Kabba Rega, the King of Unyoro. They always stoop, or fall flat on their faces on the ground, when shot at. This fact of itself made us suspect that they have had a bitter personal experience of bullet-firing before now. They had been very hostile to the advance of the Expedition when Mr. Stanley made his first journey to the Albert Nyanza, in December last. The cause of this (already mentioned) was now fully explained, and they expressed their fullest contrition for the mistake, and their intention to make us the *amende* in our future relationships.

April 16.—We marched about ten miles, escorted by native guides.

CHAPTER XI.

MEETING WITH EMIN PASHA AT LAKE ALBERT.

Our newly-made friends, the Wahuma and Bavira tribes—Emin's letter to Mr. Stanley—A scrap of "The Times" dated April 27, 1886—Kabba Rega's treatment of Captain Casati—Arrival at Chief Kavalli's residence—Cattle pestered by birds—Comparison of the Wahuma herdsmen and the Bavira hoemen—We sight a snow-capped mountain—Plague of mosquitoes—Launch of the *Advance* on Lake Albert—Jephson embarks in her and goes in search of Emin Pasha—Abundance of game on the Lake shores—Weapons and musical instruments of the natives of the plains—Industry and ingenuity of the Manyuema—Professional rain-makers—Our camp at Bundi—Emin's steamers sighted—Jephson and I escort the Pasha to the camp—Excitement of the Zanzibaris—Meeting between Stanley and Emin—Dress and appearance of Emin and his soldiers—Numerous cases of entozoa—The Pasha doubtful as to leaving his province—He presents me with some slippers and cotton cloth—Prevalence of fever at our new camp—Mabruki gored by a buffalo—Rumours regarding Kabba Rega—Daring kites—Jephson to accompany Emin to his province and read the Khedive's orders—I give a 'thought-reading' entertainment to Emin's people—Mimosa bush plantations—The Pasha's lack of authority over his officers and men—Nubiambari, a Zanzibari, missing—Unsuccessful attempt to find him, and subsequent brush with the natives—The Steamers *Khedive* and *Nyanza*—The etiology of malarial fever—Further presents from the Pasha—Stanley and I start to bring up the rear column from Yambuya—Desertion of our Mahdi porters—Emin sends us other carriers—We camp at Kavalli's—Dancing in Africa—We assist Mazamboni in a tribal feud—Retreat of the enemy on our approach—The victory celebrated by a war-dance—Food supplies from Mazamboni—Condition of Fetteh, our interpreter—A further instance of African love and devotion—We ford the Ituri River—Arrival at Fort Bodo—Sickness in the Fort—The last day of the Rammadan—Preparations for the forest march to Yambuya.

APRIL 17.—Two very fine-looking natives came, and brought us goats, and a cow, with some chickens. They told us that Emin Pasha had left a letter for us, which is at Kavalli's, one day's march from here. All day long we received visits from friendly natives. This is Mpinga's country; but the natives half-a-day's march ahead say, we are told, "that they will resist our advance, and fight us to the death." Accordingly, as it always has been, our African progress seems destined to prove an alternation of sunshine and shade.

Our newly-made friends of this district are divided, professionally and socially, into two great classes: the respective followers of the callings of Cain and Abel—the keepers of cattle, and the tillers of the ground. The former are the Wahuma, shepherds and herdsmen; the latter the Bavira, hoemen (agriculturists). The social assumption is altogether on the side of the former, who look with proud contempt on their compatriots who dig the soil.

April 18.—After a march of about six miles, we were met by a native, who brought, wrapped up in American cloth, a letter addressed to Mr. Stanley, and signed Dr. Emin. It told that the writer had heard of the apparition of a white man on the south side of the lake, and had come down with the steamer to see who it was; also asked us to stay where we are, and that he will come down again when he hears of us. The letter was dated "Tunguru, Lake Albert, 25. 3. 88." It was wrapped in a fragment of the *Times*, which I have preserved, and which contained a description of the "Newmarket" first Spring meeting (Tuesday, April 27th, 1886), with the winning of the Two Thousand Guineas trial plate by Mr. Manton's "Prinstead," ridden by F. Barrett. What delight the reading of this scrap of civilized intelligence gave us! We were all in ecstasies! The trick is finished at last!

Emin mentioned that Captain Casati had been expelled by Kabba Rega, King of Unyoro. His imperial majesty of Unyoro has, evidently, so far as we have yet been able to learn, been making it pretty hot for all his neighbours, indiscriminately. The stories we are everywhere told of his performances makes us feel somewhat Quixotic; but such feelings must necessarily be repressed, for any attempt on our part to avenge the multitudinous wrongs of the weak and the oppressed in this part of the world would end in even greater disaster than terminated the performances of the celebrated Knight of La Mancha.

April 19.—We arrived at the residence of the chief Kavalli. This chief is a fine, handsome specimen of the Wahuma tribe, and possesses large herds of cattle. He presented us with a cow and a goat. The cattle in this country are greatly worried by a bird, of the size of a thrush, which feeds on insects, and is always picking and scratching at the backs of the cattle, and thereby producing sores which are kept open

by the heat of the sun. When an attempt is made to chase it away, it will not fly off, but coolly runs down on the opposite side of the animal; and thus plays hide-and-seek with safety.

The hereditary superiority of the Wahuma herdsmen has stamped them with the air of haughty superiority which they always assume in their relations with their Bavira neighbours. The former will not, under any circumstances, intermarry with the latter; and they treat these in every way as an inferior order of beings. They will exchange their own meat and dairy produce for the vegetables and grain of the Bavira; but they think themselves justified in appropriating the latter in way of plunder, when pressure of circumstances renders barter inconvenient. They graze their cattle by roaming about among the attractive pastures of the open country; but they will never take up fixed abodes in a settled village, as do the less pretentious Bavira. The former represent the mobile landed aristocracy of this local section of African society; the latter, the plodding husbandmen. The name of the chief of the Bavira is Mpinga. He bears the hereditary title of Gavira. It need hardly be added that both Wahuma and Bavira have their various arbitrary social strata, the limits of which we are not very curious to define, even if we had plenty of spare time at command to do it.

April 20.—Jephson and myself were sent by Mr. Stanley this morning to bring the boat and launch it on the lake; preparatory to sending Jephson, accompanied by the boat's crew, to go on a voyage of exploration, and, if possible, find the Pasha. We camped in a village, where we received three goats as a present from the courteous natives. On the march we distinctly saw *snow* on the top of a huge mountain situated to the south-west of our position. As this was a curious and unexpected sight, we halted the caravan to have a good view. Some of the Zanzibaris tried to persuade us that the white covering which decorated this mountain was *salt;* but Jephson and myself were quite satisfied that it was snow. We then passed on, descending the face of a very steep hill, and entered a village surrounded by tamarind trees on the plain below. The natives were friendly, and we put up there for the night; but the plague of mosquitoes was too terrible for the language of even a poet to describe with justice. We were obliged to leave the huts in which we had intended to sleep, as we were

simply being eaten and worried to death, not only by mosquitoes, which were the most numerous and vicious I had ever met, but also by all sorts of other disagreeable insects. Besides, the smell of the huts was unbearable; for the natives keep all their goats in the huts, reminding one of the brotherly kindness with which the Irishman treats his pig. So we were obliged to betake ourselves to the open, where we made ourselves large bonfires, with as much smoke as we could manage to manufacture, for it was the only weapon with which we could keep off the mosquitoes. And we sat around these fires till morning. We also ascertained that there is a plant growing in great profusion here, not unlike a nettle in appearance, and having an odour somewhat resembling that of mint, which, when pulled and placed close to one, has the happy effect of keeping away these pests. So we procured a supply of it, with which we fortified our position; and thus managed to get a little sleep.

April 21.—At daybreak we struck camp, and marched about five miles: when we reached the lake—the goal of our somewhat wearisome pilgrimage. This march was over a beautiful park-like plain, covered with short grass, and in which the amount of game was absolutely bewildering. Buffaloes, elephants, antelopes of various sizes, &c., &c., were seen everywhere. Jephson screwed the sections of the boat together, and launched her. While this was being done, a few of the men, who had been posted as sentries to guard against possible surprise, shot a couple of antelope: these gave us a good meal, and provided Jephson and his crew with a supply of provisions for a couple of days at least. We then shoved off the boat from land, with fifteen persons on board; and gave them a hearty parting cheer as they moved off to find the missing Pasha.

I had a few shots at crocodiles; the lake appears to be alive with these brutes. I then marched back to the village at the foot of the hill, taking down two antelopes on my way. Among the bewildering varieties of game here I noticed a great quantity of guinea-fowl.

The men have gorged to such an excess to-day, that they are absolutely incapacitated from further work. At this camp there are many large tamarind trees, under the shade of which the men have made their huts. The tamarinds, when steeped

in water, make a refreshing acid drink. Several men climbed up amongst the high branches and foliage, and found a number of shields made from hippo and rhinoceros hide, which will be most useful, not only as shields to protect our men, but also to make sandals and soles for boots.

APRIL 22.—I was almost worried to death last night by mosquitoes, and all sorts of abominable vermin. After a restless and unrefreshing night, I started at 5.30 A.M., and arrived with all my men at Kavalli's headquarters about noon. I then interviewed Mr. Stanley, and reported Jephson's departure.

The natives of the plains generally use iron arrow-heads, barbed, and borne on cane or reed shafts, of about a yard in length. The shaft is furnished with a small notch at the end, with which it catches on the bowstring. The iron head is let into the hollow of the cane shaft; this feature of the structure of the arrow presents a marked contrast to that used by the natives of the forest, in which the arrow-shaft is let into the hollow of the iron head. The bows used on the plain are from a yard and a half to two yards in length, and slightly flattened in cross section; those of the forest are circular in section, and taper somewhat from the middle to either end. The string used in the forest is made from rattan cane; the string used on the plain is a cord, made usually of twisted grass fibre, but sometimes of gut. The natives of the plain use tall shields, carefully constructed, and with considerable skill, from well-plaited grasses of different colours; also small shields made of dry hippo hide or rhinoceros hide, and formed so as to protect the front, back and lateral aspects of the chest and abdomen, like a lifeguardsman's cuirass. It can be laced up the back, and is suspended from above by shoulder-straps. We cut up a number of specimens of this latter variety of shield, to make boots for ourselves and sandals for our men.

A great variety of musical instruments is also found among these peoples; they are mostly stringed, and usually approximate in design to the harp, the banjo, or the zither. The strings are made from gut. Whenever an animal dies, there is a great demand among the Zanzibaris for strips of the aponeurosis which covers the muscles of the loins (lumbar aponeurosis). This they cut into longitudinal bands, narrow enough, when dried, to use as thread; and with it they stitch the rents in their garments, &c. They employ fibres of

grasses for the same purpose; and also use the skeleton-fibres of the leaf of a peculiar palm, which they carefully tease out, and then twist up into thread. Their needle is manufactured from rattan cane; and is furnished with a hole near one end, to represent an eye. The Manyuema are exceedingly clever in making very durable materials from grasses. Their grass cloth is very thin, and beautifully woven; they make coats, and, indeed, all sorts of articles of apparel, from it. I had not an opportunity of examining the processes of its construction; my sickness and starvation during the residence at the Ipoto camp would, in themselves, have been nearly enough to prevent any investigations of this kind, and even to blunt all interest which I might otherwise have taken in them. But, apart from this obstruction, and our want of knowledge of their language, our loathing for the wretches who held us in custody there, and our fear of their treachery, prevented Nelson and myself from holding any unnecessary communication of this kind with them. Accordingly, even when we were on our legs, any inquiries which we conducted regarding the social and industrial habits of our Manyuema hosts were usually of the most limited description, and our information was, practically, always obtained at second hand. They evidently possessed a certain amount of ingenuity and industry; but their objectionable qualities effectually overshadowed all others. Indeed the detestable features of the men are daily growing upon me still, as I see more and more of the other African tribes. The ladies were not quite so objectionable.

I reported to Mr. Stanley that I had seen a snow-clad mountain. He was a good deal interested. [He saw this mountain-range afterwards, and at once named it the "Mountains of the Moon."]

April 23.—I walked to-day to the top of a ridge of hills, which are situated between our camp and the lake (to the eastward). Here I found small forests of tree ferns, the tallest about fifteen feet. A wild rocky country stretched out to the north. This is inhabited by the Balegga tribe, who are always on hostile terms with the Wahuma inhabitants of the plains. A native told Mr. Stanley that the Muta Nzigé Lake (Albert Nyanza) has one river, called the Semliki, entering the most southern extremity. I had a severe attack of fever last night.

One of the natives came up to Mr. Stanley and myself to-day, as we were standing together; and requested Mr. Stanley that he would give him some rain for his crops, as there has been too much dry weather lately. The inhabitants of the districts neighbouring the Nyanza appear to have great faith in the rain-giving powers of the more gifted members of the human family. And as so many of their worldly possessions, whether articles of necessity or of luxury, depend so largely on a fair supply of the moisture descending from above, a professional rain-maker is a person possessing vast social importance—somewhat similar in kind to that of the *nganga* (charm doctor) of the Lower Congo, even if not quite so high in degree. [We afterwards ascertained that among the Bari tribe in the Equatorial Province there is a hereditary practitioner of this profession who is greatly venerated and looked up to, and who displays great skill in extracting large fees for useless advice.]

Since we left the Congo I have not seen any idols; and all the aborigines, so far as I have met them, appear not to believe in any supreme being. This is also conclusive proof of the absence of Masonic principles amongst these people.

April 24.— . . . .

April 25.—We left Kavalli's station, and marched (about four hours) nearly as far as the crest of the range of hills which overlook the Albert Nyanza, where we formed our camp. The name of the place is Bundi, and it is situated—at a height of 4,000 feet above the level of the sea—on one of the mountain ranges which separate the vast areas of the basins of the Congo and the Nile. Here one can walk from the "head waters" of the Nile to those of the Congo within fifteen minutes. The village itself is on the crest; our camp was on the brow of the plateau, overhanging the plain, which stretches from its base to the shore of the Albert Nyanza. It commands an excellent view of a great portion of the southern end of the lake.

April 26.—We descended the precipitous slopes to the plains; this proceeding occupied about two hours and forty minutes. We reached a village, the natives of which refused to give us any food; so we collected a supply of provisions of Indian corn and bananas—about enough for five days.

April 27.—Two parties were sent out to reconnoitre: one

was sent to the shore of the lake (about five miles off) to ascertain whether Emin Pasha's steamer was in sight; the second party was entrusted to me, and we spent some hours in examining the natural products of the neighbourhood. We succeeded in killing some game, which was brought back to camp. I missed a kudu, but Wadi Mabruki brought down two.

April 28.—Saat Tato, Wadi Mabruki, and myself went out to shoot meat, for provisions for ourselves and men. Wadi Mabruki shot two kudus, and one spring-bok; Saat Tato and myself were unsuccessful in our efforts.

April 29—Sunday.—Every man remained in camp, as we expected the boat and steamer every minute. Just before noon, a letter was brought from Jephson, saying that he had arrived at Emin Pasha's station, Mswa, at 9.30 A.M. on the 26th inst.; but that Emin was away with the steamers and would not be back for a few days; when he returned they would come down together to us. He sent us two baskets of onions. They were brought by natives in a canoe. We packed up our things at once and marched off—within twenty minutes of the receipt of Jephson's letter. We reached the lake in four hours, and made our camp just before sunset. Everyone was on the *qui vive* to try and be the first to sight the steamers. Each of us tried for an elevated spot so that he might have a good point of view, and everyone strained his eyes to the utmost. Mr. Stanley got a good 'vantage-ground by utilising the summit of an ant-hill, on which he stood and used his "binoculars." He was, accordingly, the first to announce "Steamer!" (about 5 P.M.)—she was then about seven or eight miles off. As the vessel came closer within range the Zanzibaris became perfectly wild with excitement. They were overjoyed at the certainty of the existence of the mysterious white man, in search for whom they had wandered so far and suffered so much—an existence, the fact of which they had often bitterly questioned in the course of their weary wanderings through the forest. We had bonfires lighted in conspicuous positions, and we also set fire to the parched grass, so as to attract the attention of those on board the steamer. The vessel did not approach us directly, but made for a bay about two and a half miles away, in which she anchored (shortly before 7 P.M.). Mr. Stanley dispatched me with an escort to receive the Pasha and

conduct him to our camp. It was pretty dark by the time I got near the place where the steamer was anchored, so I fired a couple of volleys, on hearing which the Pasha, accompanied by Casati and Jephson, put off in our boat and came towards us. In the dim twilight we saw the *Advance* rapidly propelled by the experienced stroke of her now joyous Zanzibari crew. They very soon gained the shore, where I received the party. Emin Pasha then took Jephson's arm, and Casati mine, and our men displayed their sense of the triumphant issue of our wanderings by firing several volleys. It was not the least dangerous stage of our mission, this—the Pasha's men were so excited that they let off their bullets in all directions, and at every angular elevation, so that a good many whizzed by, unpleasantly close to our heads, as we moved about in the dark. Our Zanzibaris had lighted numerous bonfires, and preceded us as in a kind of torchlight procession, showing us the road to the camp, which was now about a couple of hundred yards off. I had a most animated conversation with Casati; nothing deterred, apparently, by the fact that neither of us could speak two words in a common language. Jephson's attention was fully occupied in keeping the Pasha from stumbling into swamps and holes, as he is extremely short-sighted. He is very slightly built, and rather short in stature (about five feet seven inches in height). He wore a clean white shirt, with a spotless coat and trousers. His bronze skin and black hair were shown out in strong contrast by these garments. He looked cheerful, and was excessively polite. The meeting between our leader and him was a very warm one. Mr. Stanley gave the Pasha a seat, and invited Casati, Jephson, and myself to sit down on some boxes which had been arranged to serve as seats. He then disappeared for a moment, and returned with three pints of champagne; which he had been keeping carefully concealed away in the legs of a pair of long stockings, buried in the lower depths of his box. We then all drank the Pasha's health and also Casati's. The Pasha said that he could scarcely express his thanks to the English for sending him relief at the expense of so much trouble and cost; but added that he did not know whether he would care to come out, after doing so much work in the province, and having everything now in perfect order. Jephson says that Mswa Station has an orderly and cleanly appear-

ance. We all hope that Emin Pasha will make up his mind to come out with us: however, Mr. Stanley pointedly observed that our object in coming was to bring him relief in ammunition, &c., and not to bring him out; as we shall have barely enough men left to enable us to push our way through to Zanzibar, and protect ourselves in the course; without the responsibility and trouble of looking after Emin and all his people. Our duty will be finished when we have handed over the ammunition, which was what he required to protect himself.

April 30.—We marched the column a few miles further on to-day, to a good camping-ground; this was desirable, as we shall probably remain here for ten days, or so, more. Mr. Stanley has gone up in the steamer to appoint our new camp, accompanied by Emin Pasha and Casati. The Pasha brought with him many cows, sheep, goats, a donkey, onions, matemmah (durha) flour; also a quantity of cloth, and a demi-john (or large glass bottle) of clear intoxicating liquid—distilled from grain, and not unlike Irish "poteen." The cloth is especially useful, as we are all in rags, and look the characters of fearful brigands when we stand near the man whom we have come so far to rescue—the neat, and beautifully-dressed Pasha.

Emin Pasha turned out in full uniform to-day: this consists of an old blue tunic with epaulettes and a few brass buttons, decorated with crescent and a star; also a sword, and blue trousers with a red stripe. All his soldiers are dressed in uniform—coat and trousers, made of tan-coloured cotton cloth, which is grown and prepared in his own province. The buttons are beautifully made from shells; each of which is pierced with two holes, and sewn on with cotton thread. They all wear leather sandals; as there are many mimosa, and other thorny trees, in the country. They wear hats (neatly woven) of grass, with a small conical crown, and a broad leaf to keep off the sun. They are all armed with Remingtons.

Several of our men have got entozoa (both *tape* and *round* worms). They have developed the symptoms but quite recently. I believe it is from the drinking water; the antelope functions as intermediate host for the corresponding parasites, which is suggestive of the source. I have no doubt that the excreta of these animals—easily as they do, finding their way into the water used by the natives (and traveller)—

here furnish the ova and scolices respectively, which reach their final stages of development in the human intestines.

May 1.—Emin Pasha is still doubtful about leaving his beloved province. We have brought him many packages of letters and papers, which we (three) are hoping may influence him. He seems to look upon himself as the slave of his people, and that his services are entirely theirs, to be used as they may think proper. He must have been an ideal *liberal* governor!

May 2.—Emin has sent me a pair of slippers; made in Turkish fashion, with pointed, turned-up toes. They are fashioned from a beautifully-prepared leather of a bright crimson-red colour, and are decorated with a degree of taste and elegance that might have satisfied the luxurious fancies of a reigning harem favourite. These slippers, like their other articles of dress, are made by Emin's own people. He has also given me as much cotton cloth as will make me a pair of trousers and a shirt; these articles are sadly wanted, as my old ones have gone down to a few incoherent shreds, and these are hourly diminishing in quantity, apparently by evaporation. Emin is extremely courteous and considerate, and appears to take a genuine pleasure in giving things away to friends and dependents. I do not like to appear before him until my garments are made, for the contrast is too great. I have only three buttons left, so that I am obliged to sneeze, or undertake any sudden exertion, with very great caution.

May 3.—The men have finished building their huts, and have constructed two bomas: one for cows, the second for sheep and goats. The steamer started this morning on a provisioning trip, from which she is to return in ten days.

I had very high fever to-day—temperature 106° F. all day. Fever seems to be more prevalent here than even in the forest. The gradual depression of the level of the lake is leaving a very miasmatic plain around its shores; and the chilly breezes, which are so constantly circulating about its waters, invariably bring on fever.

May 4.—Our hunters have brought in some game, but there is no food of any other kind within two or three days' march from here. I am down with fever again to-day, but not so high as yesterday.

In the middle of my high fever of yesterday, I was obliged

to walk a distance of over three miles, in the heat of the noon-day sun, to see one of our men, Mabruki Wadi Kassan, who had been nearly gored to death by a wounded buffalo. The infuriated animal had caught him with one of its horns between the thighs, tossed him into the air, and then trampled on him as he lay on the ground after falling. I found the perinæum so completely laid open, that the bladder and adjacent portions of the intestine were fully exposed. He also had several ribs broken, and his head was severely bruised. His companion had escaped similar treatment by nimbly climbing up a tree, while the buffalo's attention was concentrated on the victim whom he had secured.

I dressed Mabruki's wounds, and had him conveyed to camp on a cow-hide stretcher. Saat Tato had managed to kill the buffalo, with the single cartridge which was left among the party when the scene occurred. This completed the list of three buffaloes and one antelope which had fallen the prey of Mabruki's rifle this morning. It had been a day of triumph for him in the early part of its course; but, poor fellow, the wheel of fortune rapidly turned a complete revolution. His case is, of course, a desperate one.

May 5.—A rumour reached us to-day that Kabba Rega, King of Unyoro, is sending a force of 700 rifles to attack us. This individual seems to prevail against all surrounding districts, after the manner of a raging pestilence: all the neighbouring tribes are living in perpetual terror of his attacks. He is possessed of 2,000 rifles, most of which are tower muskets, but others are modern Winchesters.

May 6.—We experience a considerable amount of difficulty in maintaining the sanitation of our camp in a satisfactory state, as there is so much meat lying about in all directions. "Fatigue parties" are deputed to clean up the camp every morning. Kites are always flying about in great numbers, and are constantly swooping down to snap up fragments of meat; these birds are so daring that they often snatch pieces of meat out of the men's hands. Emin Pasha requested Mr. Stanley to allow one of his officers to visit his province, and read the Khedive's orders; so that his people would have ocular evidence that our Expedition has actually come for their relief. Emin named me in connection with this request. Mr. Stanley, however, said that it was absolutely necessary for me to remain

with the Expedition, and added that he would leave Jephson. This arrangement was, accordingly, agreed to.

MAY 7.—Emin Pasha still seems very undecided about coming out with us. He avers that he would be quite happy in Africa, if he could receive papers and letters from Europe. He says that he will come away if his people will allow him: he does not like the idea of leaving his people, and does not think that they will come out with him, as they are all aborigines, and hate the Egyptians. They have little or no idea of the geography of the coast-line of Africa; most of them have never even heard of the name of Cairo, and the best informed among them have but some vague idea of a large town in that direction, which they know by the name of "Masara." Mr. Stanley has proposed to him that in the event of his deciding not to come to the coast, he should come to the north-east angle of the Victoria Nyanza, where he would be placed in communication with the outer world, and might comfortably enjoy the correspondence with Europe which he so much desires. This position should, I think, satisfy most of the conditions which he seems to desire.

MAY 8.—I gave Emin Pasha's people an entertainment in the shape of a demonstration in "thought reading." My pin-finding was perfectly successful, and I also found with ease various other articles—some of them deposited at considerable distances from the camp. I was quite surprised at myself! I also told any of them to think of something that I should do, and, without imparting the secret thought to any one, I would do what the selected person desired. In this ordeal I was also successful in every instance. I caused extraordinary excitement by finding an axe which Hawish Effendi (commanding 2nd Battalion), one of the Pasha's majors, had buried in the sand of the lake shore at a considerable distance from our headquarters. This performance was looked upon as quite supernatural.

The steamer is due to-day, but no sign of it has yet appeared. It is too awful to think of going back all the way for Barttelot —it means about ten months more in the bush. Jephson and myself have both had a great deal of fever since we came to the shores of the Nyanza, which we had been hoping would prove a sort of Garden of Eden to us. It is very gusty and draughty on the lake shore, and we certainly have to blame

ourselves for exposure to the direct rays of the sun while out shooting at buffalo and antelope.

There are some small plantations on the plain, but most of the scrub is made up of mimosa bush, the thorns of which are a source of very great annoyance to our men. They are obliged to wear thick sandals to protect their feet from them; and, accordingly, a new article of dress, which had been conveniently dispensed with in the forest, has to be carefully provided. We are anxious to be on the move again; as we find by experience that all rest and no work is demoralizing —to ourselves as well as to the men.

Emin Pasha has given me some cotton-cloth, which was woven by the inhabitants of his province. I have had one shirt, one pair of trousers, and two pairs of knickerbockers made from it; so that my nakedness is again hidden.

At a shauri held in the Pasha's tent, where his Excellency and his officers were conferring with Mr. Stanley and myself, the Pasha showed his weakness by asking Hawish Effendi, in our presence, if he would promise, there before Mr. Stanley, to use his influence to get his people out. This lowered his status at once in our eyes, as it clearly proved the Pasha's want of authority. He has evidently no power to lead off his men in any direction—he has merely a voice among them, perhaps a little more influential than the average.

MAY 9.—. . . .

MAY 10.—There was nothing done in camp yesterday; everybody is feeling the *ennui* of sitting down and loafing about. The monotony of this existence was abruptly broken to-day by the arrival of news which roused our leader's ire to a high pitch. Emin Pasha brought him the intelligence that three of our men had been living with the natives, on the hills, for a day and a night; also, that Nubiambari of (No. 1 Company) had been killed by the natives. It appeared, on inquiry, that seven of our Zanzibaris took their rifles yesterday, and rambled away to perform some private looting among the natives of the hillside. During the progress of this crusade one of the seven was wounded with an arrow; and, as usual, his comrades ran away and left him in the hands of his enemies. They do not appear to have made any attempt whatever to rescue him, although they all had their rifles, and might have made a good fight.

On hearing this irritating report, Mr. Stanley at once fell in the men, and fined Saat Tato, Wadi Mabruki, and some of the men for losing their cartridges. (Wellington said, "Punishment is cruel—nothing is so inhuman as impunity.") I was then dispatched with a force of forty-two armed men to search for Nubiambari. I left camp at 7 A.M., and marched to the native settlement on the side of the hill; at which I arrived about 3 P.M. We found some grain, some chickens, and three goats. We saw, however, no trace of Nubiambari or his rifle, and commenced to make a move towards home at sunset, when the natives, considering that our retreat was symptomatic of fear, started out from all their hiding-places, and came down upon us in great force. They seemed to rise from behind every rock, and swarmed like vermin out of the cornfields. A few rounds, however, stopped those who were coming on us from behind. They made a tremendous noise, shrieking to one another along the hill-tops. Fortunately, the Zanzibaris knew their language sufficiently well to know what they were saying; those on the hill were calling down to those in the hollow to go and lie in wait in the corn, and attack us as we descended towards the plain. Acting on this knowledge, I thought it more prudent to halt for the night at a small village close by; where we could strengthen our position by making a strong boma, which would keep off any rush of the enemy, and shield us from their missiles. I considered this much more prudent than an attempt to pass through the matemmah fields, alive with the native archers; who would be able, in the dusk of the evening, to pick us off from either side with perfect impunity. I do not believe that half our number would have escaped them. So I told off a small detachment to burn down about thirty huts, and so give us a clear space of about fifty yards around our position. Having thus procured sufficient accommodation, I gave the men the goats to eat, which furnished material for a good square meal; after which they disposed themselves contentedly in their several places for the night—as natives rarely attack at night—and we rested without any disturbance except that produced by mosquitoes. The latter are certainly atrocious pests in this part of the world; they bite most viciously—I only hope that they will not inoculate us with any specimens of the *filaria* which they so often carry about with them.

MAY 11.—I started before daybreak, and marched down by a different road to that by which I ascended. We got safely off before the natives were awake, and marched from 5 A.M till noon, when we all reached camp in safety, bringing back some food with us.

MAY 12.—All the men fell in this morning in presence of our leader. There were two of the total number missing. He directed me to take charge of twenty-nine men, to teach them skirmishing; the remainder he sent to build huts. The men have now three days' provisions, as I brought back nine cups of corn (with beans, &c.) to each man. The improvident creatures deserve to be left without food: they would not carry up all the corn from the steamer the other day, when it brought a large quantity for them, and she had simply to *bring it back again*. On their return yesterday from our expedition the men left, as usual, a substantial store of provisions hidden here and there in the long grass; the packets were, however, picked up by Uledi, and brought into camp. These are aggravating instances of the deficiencies of our people: not only in forethought for themselves, but in gratitude to their leaders, and good-fellowship to their comrades.

MAY 13–14.—. . . .

MAY 15.—The steamer *Khedive* left this morning to bring back carriers; she will return in eight or nine days. She is in good repair, very clean, and is able to steam at the rate of five knots an hour. She has now been with Emin Pasha in constant use—between the Nile and the Albert Nyanza—for ten years; and had been employed at Khartoum for a considerable time before she fell into his hands.

I had a sharp attack of fever yesterday, brought on by the drill-exercise, during which I was exposed to the intense heat of the sun—which is the most treacherous enemy of the Europeans in Africa—alternately with gusts of really cold wind, which blew from time to time off the lake. My experience of African fever up to the present has invariably been that *the more chill the more fever*—one never occurs without the other. This fact has completely disarranged the preconceived ideas which I derived from my early reading, and the teaching which I had received on the subject. Another tradition which I had imbibed on the subject of malarial fever, and which has been completely dissipated by the incidents of the E. P. R.

Expedition, is the false doctrine that the lower animals never develop its symptoms. The shade of my poor donkey—whose earthly remains are now mouldering near the Manyuema Camp at Ipoto, had it the power of responding to scientific queries, could yield up convincing testimony to the contrary.

[Since my return I have looked with interest to see whether the science of bacteriology, which had been making such gigantic strides during our absence, had succeded in throwing any additional light on the etiology of malarial fevers; but I found, to my disappointment, that the information obtained in this domain still leaves the subject in an unsatisfactory condition. The bacilli of Klebs and Tomassi Crudeli, and the *alga*-like micro-organisms of Laveran have, since the observation of their original discoverers, been repeatedly examined with interest. The *amœba*-like bodies (*plasmodia* or *hæmaplasmodia*) of the latter, which he has found in the blood of malarial patients—sometimes free in the plasma, and sometimes enclosed in the red corpuscles—have been criticised by Macé, who would refer them to the second variety (*corps flagellés*) of Laveran's *alga*-like bodies, and by Golgi, who looks on them as specimens of *myxomycetes;* while they are referred by their discoverer himself to the animal kingdom, under the name of "*hæmatozoaires.*" No specific ptomaines appear up to the present to have been isolated from cases of the disease, and no successful attempt has been made to show how it is that the influence of either microspore or ptomaine can regulate the periodicity of the fever. I am, however, glad to be able to assure the practical pathologists who have so often regretted the non-susceptibility of lower animals to malaria, as one of the greatest obstacles to their investigation of the disease, that such obstruction has no real existence—at least, in the heart of Africa.]

MAY 16–21.—. . . .

MAY 22.—Nothing remarkable has happened since the 15th. This morning, however, a stimulus was given to our monotonous existence by the arrival of Emin Pasha's two steamers—*Khedive* and *Nyanza*—with eighty soldiers and 150 carriers on board, besides fifty other persons.

Mr. Stanley is to start on the day after to-morrow, to bring up the rear-column and its loads. He brings me with him, and our own force of Zanzibari carriers—122 in number—accom-

panied by 130 Mahdi carriers, who have been supplied by Emin Pasha. We will probably be many months away.

The steamers on arrival played the Khedivial hymn. Emin Pasha sent us a large quantity of melons, oranges, pomegranates, pastry, &c., &c. He gave me a present of a donkey to-day. He is never more happy, apparently, than when he is conferring gifts; he is certainly one of the kindliest and most generous men I have met.

MAY 23.—The men spent the day grinding corn into flour, for the return. Emin Pasha sent for me, and gave me personally a present of beads. He is most kindly and considerate; thinks of everything to make us happy and comfortable. He gave us a ten-gallon vessel of spirituous liquor prepared by himself; it is clear and nearly colourless, and almost as intoxicating as whisky. It is evidently the "poteen" of Africa —minus the vexatious espionage of the Revenue officers. During our stay here at the lake, both Jephson and myself have, according to orders, taken the men out every day to cut a road through the long grass in the direction of the village, at the bottom of the steep ascent to the plateau; it is a yard and a half in breadth, and now at least three miles long. This work kept the men in health, and out of mischief; but neither Jephson or myself cared much for the job. We cut the path perfectly straight, and measured it by a long tape.

MAY 24.—*Queen's birthday.* Mr. Stanley and I left camp to-day, to take another long plunge into the forest and bring up the rear column, having bade Emin, Jephson, &c., affectionate adieus. We had our own men, and 130 natives of the Mahdi tribe, furnished by Emin, to act as porters. I had charge of the rear guard, with thirteen rifles. Emin Pasha marched his regular soldiers outside, to a distance of about a mile and a half; and formed them up close to our path, to offer us their farewell salutations. They played the Khedivial hymn as we passed by.

When we had proceeded a couple of miles further, twenty of our Mahdi porters deserted us. I placed two Zanzibaris to look after each batch of twenty-three carriers; but there were so many rivers, and so much bush, that the natives had a good opportunity of deserting. At a place about eight miles from the Nyanza, these Mahdi carriers deserted *en masse*—all ran off together! I fired at one, who fell within a few yards as if

dead; I noticed his eyes blinking, and lifting his eyelid, so as to show him the rifle, brought him to his legs in as good health as ever. The ruffian had merely feigned being killed; but did it very cleverly, as he was not even hit. About thirty-one were then secured. Finally, I succeeded in bringing nineteen (of the 130) into the camp. I shot one in self-defence.

All the rest of the column had now got miles ahead. I arrived at camp at 2 P.M., after an unprofitable march of ten miles. At 3 P.M., I started back with fifteen Zanzibaris to Emin Pasha; to try and see if I could pick up some of my deserters. I recovered but two.

I dined with Emin and Jephson, and we drank the Queen's health in spirit of the Pasha's manufacture. He also gave us some cheese of his own making.

During dinner, a canoe arrived from Mswa station, with the intelligence that 120 carriers had arrived there. Emin immediately sent the steamer (at midnight) to fetch these porters. He also dispatched a party of forty of his soldiers, to try and intercept the runaways who had left us. I walked twenty miles to-day, so I feel pretty well tired, between the exertion and the accompanying anxiety; and am glad of the evening's rest.

MAY 25.—I returned early to Stanley Camp. As it is full moon, the 120 carriers and any of the deserters who may have been picked up will be sent on after us, with an escort of forty of Emin's soldiers. I brought fourteen of Emin's men here to-day, and they have returned with ten of our men, who will show the road. We are now encamped at the foot of the precipitous ascent to the plateau, about eight miles from the lake. We again saw the snow-capped mountains [now named "Mountains of the Moon"], which I first saw on the day I brought the boat to the lake with Jephson.

MAY 26.—At 8 A.M., eighty-two carriers arrived; under an escort of Emin's soldiers, and ten of our own men.

At 3 P.M. we started—with the entire column—to climb the hill. Mr. Stanley was in advance; I was with the rear guard. I did not get to camp till 1 A.M., on account of the delay of getting the animals up the hill. (I had charge of the progress of seven cows, six calves, twenty-six sheep, and seven goats.) I was obliged to shoot one cow and one calf, which had proved so unmanageable that the loss of time was becoming too serious.

Mr. Stanley got to camp about 6 P.M.

MAY 27.—A party of forty men who had gone for Kavalli last night has returned with him. We marched off from camp in the forenoon, and halted for the night about 5 P.M. We were obliged to kill another cow that was unable to walk. Kavalli's attitude to us has certainly been most kindly and hospitable; and his friendship is very pleasant, and wards off many anxieties.

MAY 28.—We remained in camp all day. The men had plenty of sweet potatoes to eat, and also some meal. The natives presented us with a calf. The carriers had a great dance this evening; an amusing diversity from the monotony of the day. The tribes around the shores of the Nyanza are evidently great indulgers in this form of pastime; but so, of course, all savage tribes are. In the forest, however, we had few opportunities of seeing any displays of the kind; but all our surroundings here are more pleasant. Each tribe has its characteristic code of dancing gymnastics, but all partake of the features of the nautch dance.

MAY 29.—We left camp at 4 A.M., and marched till daylight. We had a good moon. At daylight we met a native army, 1,500 in number: 500 followers of Mazamboni, 500 of Mpigwa's men, and 500 others. We halted to confer with them, for here was the rendezvous: Mr. Stanley having arranged to assist these chiefs in a tribal feud which they have been carrying out with some of their neighbours. They were now actually on their way to make a raid on the chief with whom the vendetta existed. Mr. Stanley sent me with sixty armed men, of my own company, supported on either flank by 750 natives. But the enemy must have had warning of our approach, as they had all fled, and not one was to be seen anywhere. The inhabitants had taken their cattle and food with them to the hills. We accompanied our friends—on foot all the time—from 4 A.M. till 1 P.M., going all the while at the rate of about three miles an hour, *and did not get a morsel to eat the whole time.* So we were rather glad when the crusade was over. I then returned to where Mr. Stanley had encamped, on the side of a hill. When I got back to Mr. Stanley, after nine consecutive hours' marching, I had only a few Zanzibaris near me, and all the natives were left far behind; the white man can walk down either the Zanzibaris or Aborigines any day, as their feet get tender and swollen.

Later on, all Mazamboni's and Mpigwa's people celebrated the triumphs of the day by a war dance, which was really well performed. The warriors arranged themselves in perfectly martial order, and went through formidable evolutions to the sound of drums; whose music, accompanied by that of their own voices, was simultaneously timed by the movements of their feet, the brandishing of their spears, and the gyrations of their necks, heads, and hips—accompanied by the fluttering oscillation of a bunch of green leaves stuck in the belt both before and behind. A most imposing sight!

MAY 30.—We left camp early, and marched till 11 A.M., when we halted for the day in our old camp, near the end of the range of hills. I was obliged to carry a calf on my donkey, during the latter part of the march. Mazamboni, accompanied by a number of other chiefs, and a great many men, came to our camp. They had been asked to bring us food, as we were in want of it; and the grateful creatures presented us with about fifty cups of matemmah meal, and two or three calves! Mr. Stanley remonstrated with Mazamboni and his chiefs: he had given them a blanket, some cloth and ivory, and had formed myself and sixty of our men into a guard of honour to protect these reprobates in their expedition, in the hope that they would help us out of our difficulties while in this part of the country. But no arguments were of any use; Mazamboni assured us that if we waited till to-morrow he would give us food; and that, if he failed to bring us a substantial supply, he would return the ivory, &c. The honourable man intended, of course, to keep his word! His is, however, but an additional instance of the gratitude of which we have had many experiences in our African career. The men were greatly annoyed at it; they are now able to express themselves pretty strongly, as they are not under the depressing influences of starvation.

MAY 31.—We remained in camp all day. I had very bad fever, and was obliged to stay in bed. Mazamboni sent us three animals to-day, also a good quantity of matemmah and of malafu (banana wine). We learn that he is in great dread of an attack of reprisal from his enemies, which clearly explains this generosity.

JUNE 1.—We marched at daybreak, and halted for the day in a banana plantation.

JUNE 2.—We marched early. Mr. Stanley's boy, Hillalah, has been missing since yesterday. I was with the rear-guard, and did not get to camp till 4 P.M. I then commenced my luncheon, and when half way through, Mr. Stanley appeared from his tent, and coming to where I was eating said, "Doctor, have you seen the sick man?" I said, "No," and asked whether he was a Zanzibari. He said, "he is a native." I immediately left my luncheon and went to see, but found that nothing was the matter: he was merely a malingerer.

We pitched our camp close to the same village where Fetteh was wounded when we were going up to the lake. The grass has grown wonderfully since we were here before; it is now twice as high, very rank, and looks like reeds. There are strong canes interspersed. The neighbouring natives came in to see us, and seemed disposed to be quite friendly; so we treated them accordingly: our men brought in quantities of sugar cane.

JUNE 3.—The natives presented us with a goat, one chicken, and three bananas. We left early, and marched right on till we reached the Ituri river. Uledi and Wadi Mabruki were sent early in the morning to hurry to the river, and seize some canoes, which they succeeded in doing. As usual, I was in charge of the rear guard, and Mr. Stanley in advance. I gave Fetteh my donkey to ride, as he was unable to walk. He has been very unwell for some days past, on account of the amount of work he has had to do as interpreter, and the fact that he has been in a weakly condition since he received the arrow wound in the epigastrium, just below the end of the breast-bone. From that time up to the present he has been bringing up blood at intervals; so that I have no doubt that either his stomach, or the adjacent part of the œsophagus, was then wounded. He rode on from 6 A.M. till 11 A.M., but was so weak that I was obliged to get the men to hold him on by turns. They were, however, soon tired of this task. Massoudi, and other Zanzibaris, who had been helping him, thought it quite too much trouble; so they dropped him on the path to die or be killed by the natives, who are always on our trail, pretty much like sharks in the wake of a ship. This is a further instance of African love and devotion. When the party came up to me about an hour after they had disposed of their charge in this way, I asked, "Where is Fetteh?"

They replied, "We have left him on the path, as he was not able to ride the donkey." I abused them pretty freely, and sent them back with the cow-hide conveyance, to bring him up on our way to the forest; which we reached at 10.30 A.M.

On the march we encountered a nest of hornets, whose stings drove our poor cows actually mad; one of them was lost, as she ran away so far that we could not follow her, through the bush.

JUNE 4.—We used two canoes to convey the expedition across the Ituri river, and the proceeding occupied four and a half hours. As the cows were being driven across a large crocodile appeared, and made for our cattle, holding its head above the water, with its mouth widely open, to seize a cow or a donkey. Mr. Stanley fired at the marauder, and I believe hit it, for it immediately disappeared and troubled us no more. We encamped at the village where we had formerly stayed, at the foot of the Mandé hill, from which I had first seen the plains.

JUNE 5.—We marched early, and halted for the night at a small village, where we had taken luncheon on our way to the Albert Nyanza. The men got plenty of bananas, and laid in a stock of them sufficient to last for three days. This was very necessary, as we knew, from our previous experience, that there are none to be got after leaving this place till we get to Fort Bodo.

We are obliged to carry Fetteh every day, as the poor fellow is very weak. The danger of the Mahdis deserting is now diminishing, as we are getting deep into the forest.

JUNE 6.—We marched early, and encamped in the forest. The sheep will live in the forest, as they seem to like the leaves. Seven or eight arrows were let fly at us from the bush.

One of the arrows that had been shot at us hit my chair, which my boy Amani was carrying on his shoulder, and it just saved him from a bad wound in the neck; of course he chucked away the chair and ran, but we recovered it again.

JUNE 7.—We started early, and made a long march; halting for the night at the site of an old camp.

JUNE 8.—We marched at daybreak. Fetteh was carried, as he is very weak. Ali Jimba, who was suffering from fever, fell out on the road, and was unable to proceed, so I had him set on my donkey, which he rode to camp. One of the sheep was so weak that it had to be killed; also a cow fell down on

the march, and could not be driven on; so it had to be killed too. The dead sheep and a goat were carried to camp.

We arrived at Fort Bodo, where we found Stairs and Nelson both looking "fit." The former had brought back fourteen men from Ugarrowwa's camp. Out of a total of fifty-six that had been left there (forty-six Zanzibaris, five Soudanese and five Somalis) in September last, twenty-six had died, and thirty had left with Stairs: of these ten died on the road, one deserted, one was left in the Manyuema camp—unable to come on, one had gone down the river with couriers, and three are now on suffari looking for food.

JUNE 9.—I spent the day tending the sick. There is a great deal of disease in the camp: many are suffering from fever, and many are disabled by ulcers.

JUNE 10.—This is the last day of the Rammadan. This is a season observed by all devout followers of the prophet with the most punctilious devotion; it was sacred among devout Arabs even before the religion of Islam itself had been propounded; it was at this season, that, when he retired to his cave for self-examination and converse with the unseen Creator, Mohammed heard, on walking forth, the shrubs and stones of the desert address him as the "Apostle of God." Accordingly, the sacredness of its anniversary to all true believers is quite understandable.

JUNE 11.—Mr. Stanley fell in the whole force to-day. He distributed to each man six heads of corn per day, for twenty-five days; so as to prepare for the march down river to recover the rear column. He goes by himself, leaving Stairs, Nelson, and myself here to remain till his return. Oh, these dreadful standing camps! If they had never been instituted Africa would not be at all such a bad place to while away the time in.

JUNE 12.—Mr. Stanley gave me a tin of quinine to-day. This tin I had originally procured from the doctor at Stanley Pool. It contained about thirteen or fourteen bottles of quinine, each holding one ounce. He told me to take five bottles and leave the rest in the box, which he brings back to Yambuya for the use of the officers and men there. He has taken one of my boys, Amani, from me, as he can carry a load, and tells me to get a sick man in his place. 219 rations have now been issued for the use of the 219 men who are to accompany Mr. Stanley to Yambuya. This number includes 100 of Emin

Pasha's Mahdi carriers. I suspect it will take our leader all his time to get work enough out of these hopefuls to pay for even the scanty food which they are likely to be provided with during the greater part of their journey to Yambuya and back.

JUNE 13.—Preparations for starting for Yambuya still continue.

JUNE 14—Mr. Stanley has issued written orders appointing Stairs commandant, Nelson second in command, and myself in medical attendance on the sick. He also directs us that when Jephson returns here, in two or three months, we are all to go on, and remain with Emin Pasha till his return. He is leaving fifty-seven men (invalids) with us in Fort Bodo, and about sixty rifles, so that we are bound to have a pretty slow time of it, still we are not directly overshadowed by the ogress of robbery, starvation, and cannibalism, as we were during our stay at the horrible den at Ipoto.

JUNE 15—Nelson was to have gone to the Manyuema camp with thirteen men to fetch the boxes left there, but he has an inflamed hand, and cannot go: I take his place.

CHAPTER XII.

LIFE AT FORT BODO.

I accompany Mr. Stanley to Ipoto—The Mahdi men suffer from "guinea-worms"—My second meeting with Kilonga Longa—Mr. Stanley complains of the bad treatment of our Zanzibaris—We hold an important shauri with the chiefs respecting Mr. Stanley's agreement—Shocking state of the Manyuema slaves—Final arrangements with the Manyuema—Mr. Stanley's entry in my note-book regarding the rear column, and future instructions—Incidents of the return journey to Fort Bodo with the loads from Ipoto—Scarcity of food at Kilimani—Arrival at the Fort—Nelson and myself are laid up with fever—I hold a post-mortem examination on the body of Saadi Baluzi, who had previously been wounded by a poisoned arrow—A great scare in the Fort—Our agricultural pursuits—Police duty in the plantations—Thefts by dwarfs of our bananas—Villages of the dwarfs—Their cunning—Discontent and insubordination in the camp—Troublesome ants—Destruction and theft in our plantations by elephants—Nelson and Stairs down with fever—Natives in our tobacco plantation—Our Zanzibaris are useless sentries—Food getting scarce—Terrible sickness in the camp—Filthy habits of the Zanzibaris—The circumcision of Kibori—Destruction of our boots and clothes by rats—Our men laid up with ulcers—Return of my old complaints, erysipelas and African fever—List of the sick in camp with their respective diseases—Our Zanzibaris are great schemers and malingerers—I arrange Nelson's and Stairs' medicine chests—Further plundering from our tobacco plot—My boy Muftah a terrible liar—I am laid up with inflammation of the lymphatics—Death of Hanamri—We kill our last sheep—Anxiety for the Pasha and Jephson's arrival—Effects of a violent tornado—Death of Khamis Faragi—Zanzibari custom regarding their sick.

JUNE 16.—Mr. Stanley and I left the Fort about 6.30 this morning. I go on as far as the Manyuema camp for the boxes, as Nelson cannot go on account of his hand. All the men looked as "fit" as they could be. We passed a camp close to the banana plantation, also a camp formed by the Wambutti—about 12 o'clock. The elephants are fast eating down our bananas. We halted for the night about 4 P.M. I often think that carrier pigeons would have been very useful on this expedition: with their aid we might communicate with the rear column; and, perhaps, save this return journey to Yambuya.

JUNE 17—Heavy rain fell to-day. We passed two camps, also several clearings, where we found plenty of sweet potatoes,

the leaves of which make a good mboga. We arrived at Kilimani about 5.30 P.M.; I had some toasted potatoes for dinner.

Mr. Stanley told me to-day that his great anxiety will be about us at the Fort; and expressed his hope that he would find us at the lake on his return. He said that he would go to Yambuya for the rear column, but would go no farther —even if the steamers had not come up—as Bonny, Troup, and Ward have had time to come up with their men in canoes. He will bring the ammunition (twenty-four boxes of Remington), several Winchesters and Maxims, and cross Africa with them. If Emin Pasha says that he cannot go as there is too little ammunition, then Mr. Stanley's crossing will go a long way to prove that the Pasha could have got out if he tried.

JUNE 18.—We stopped all day at Kilimani for bananas.

JUNE 19.—We marched to a village where I left Stairs and the boat. We got a few bananas.

On returning with my party of fourteen men, I intend marching from here to where I had my luncheon; then one short march to Kilimani, and three more to Ford Bodo.

JUNE 20.—It rained very heavily last night. We marched to a village in an old clearing; and camped at 5 P.M. We were on foot all the time from the start in the morning, as we made no pause for luncheon. I buried a basket of corn in the hut where I slept, so that I may unearth it on my return—for the use of the improvident Zanzibaris.

JUNE 21.—We started at daybreak, and marched till 10.30 A.M.; through a clearing which lay chiefly through bogs and swamps. We camped in Mr. Stanley's former resting-place. I am very sick of matemmah porridge three times a-day, and am hopefully looking forward to be able to buy some chickens, rice, beans, and tobacco at the Manyuema camp. I asked Mr. Stanley whether, having regard to the future, it would be foolish to refuse a present from the Manyuema chiefs who had treated Nelson and myself so badly. He recommended me to take whatever they gave.

JUNE 22.—We marched to an old clearing, within three hours of the Manyuema camp. Fortunately, there has been no rain on this march, as I have no tent with me. I have to sleep under a hut erected by my fourteen men, and finished within an hour after my arrival in camp. One of the Mahdi men came to me having a white worm, forty inches long, protruding

from the skin of the dorsum of his thumb. I twisted it on a slender rounded piece of stick; and, by using gentle traction in this way, got out two feet more: it then broke. This was a "guinea worm," *Dracunculus* (vel *filaria*) *medinensis*, and is very common among the Mahdi men. When examined in its place under the skin, it feels like a hard round cord. Its first appearance is like that of a small boil, but somewhat flatter, and more livid in colour [the colour was, however, influenced by that of the skin of the individual in all the cases I have seen; they were all of the Mahdi tribe only]; when the tumour has developed, the concentric, cord-like coil of the parasite can be felt through the skin. If left alone, a bulla or abscess eventually forms and bursts; the skin ulcerates, and the parasite is discharged. The process is, however, an exceedingly slow one, and the affected individual suffers long from pain and fever.

JUNE 23.—A bright full moon last night! We started at 6.30 A.M., and arrived at the Manyuema camp at 11 A.M. Mr. Stanley had already arrived, and was sitting on the barazan of Kilonga Longa's hut: some chiefs were squatting around. On my appearance, all the black men got up and came forward to meet me, and made their salaams. Kilonga Longa asked me if I was ill; this, I knew by his subsequent conversation, was to introduce a contrast between my present appearance and what it had been when I left his camp. He said that I was fat and well then! He presented two milch goats and two kids to Mr. Stanley; also twenty cups of rice, and a large basket of the grain with the husk still on. [Some of this rice I brought with me to Fort Bodo to plant there.] Kilonga Longa also sent a large basket of rice, with the husk on, for myself. I gave him some tobacco as a present.

In the afternoon, Mr. Stanley abused the Manyuema pretty strongly for—as he directly put it—killing our poor Zanzibaris. Kilonga Longa came up to him after the discussion of this subject had terminated, and implored him not to tell the Sultan of Zanzibar of the cruelties that had been practised on the men during their stay with them, or of their treatment of Nelson and myself.

The loads were all handed over correctly to me by the Manyuema, excepting one saddle; which may not, however, have been handed in, although I had left it at my tent door when leaving the camp.

JUNE 24.—To-day an important shauri was held with the Manyuema chiefs; an endless profusion of lying was therein displayed. Ismailia had the brazen audacity to assert that he gave us food every day: also that he gave food to the men. Our men were then called, and denied these statements in the strongest terms. Ismailia even carried his testimony further, and affirmed that *I had killed a Zanzibari named Mabruki:* he also persisted in asserting that he had given us food every day. I said "every ten days." Ismailia said that he had given us all necessary food, and that it was all *bullæ* (gratuitous) on his part, as he did not make the agreement.

Khamisi and Sangarameni were away on suffari, so that they had no part in this shauri.

I gave my men each a rifle, and eleven rounds of ammunition; and started on my return journey to Fort Bodo at 3 P.M., with the loads which had been left at the Manyuema camp: forty-eight rifles, one bag, one box, one portmanteau, one saddle, one tent (with poles), a Maxim shield, one box of Remington ammunition, one box of rice; a female dwarf, whose freedom I had purchased for a handful of beans, twelve cups of rice, and six cups of corn, now became my valet. I had no one else to carry my food; as I was obliged to take an extra box which Muftah had to carry, so that we were all loaded.

The Manyuema slaves look starved and are covered with ulcers, forming a deplorable spectacle. These ulcers appear to be contagious, as they spread rapidly among the men. They tend to penetrate through the soft parts down to the bone; and, when they come to involve the periosteum, the bone always dies, and undergoes a process of exfoliation.

The presence of the enormous profusion of dead and dying vegetable matter appears to have a specially pernicious effect on the progress of these ulcers, and seemed, indeed, to be the prime factor in the genesis of the epidemic of them that we have had to deal with in our forest life. All the men belonging to us who had been left behind at the Manyuema camp have died (except Sherif); their names were Kmaroni, Feruzi, and Dualla. Kilonga Longa produced a receipt from Stairs, containing the statement that Nelson, and myself had sold eight rifles for food.

Kilonga Longa returned thirteen rifles to Mr. Stanley, two were handed back to him, as Stairs had already presented them

to Kilonga Longa. Mr. Stanley brings the others with him, as there are 120 of the rear-column unarmed.

JUNE 25.—I marched through two boat camps; and stopped about twelve o'clock, in the third boat camp. Mr. Stanley's last camp was passed at eleven o'clock.

Mr. Stanley got back his valuable watch and chain from the Manyuema chiefs, and arranged to settle his account with them for sixty doti of cloth (inferior calico) in payment of the services rendered in fetching the boxes from Nelson's starvation camp, and for giving guides for fifteen camps ahead; also thirty doti for (*not*) feeding Nelson and myself, with our Zanzibaris. This payment of ninety doti was formally accepted, instead of the two and a half bales which had been originally agreed to.

Before parting from me to go towards Yambuya in search of Barttelot, Mr. Stanley made the following entry in my note-book —dated, 24th June 1888:—

Memoranda.

1st. Supposing that the steamer *Stanley* was fortunate in her voyage, she will have reached Yambuya about the middle of August 1887; and, say ten days later, the Major has begun to transport goods to Yankondé, the next settlement; in twelve days he will have finished the transport. If he has advanced all along the road at this rate, he will have reached by 1st of September, 1888, Mugwye's. If he has taken sixteen days to make one of our camps, then he has made twenty-two camps, and has reached the place where Abdullah, the Nubian, left his rifle, and Stairs, who was on rear-guard, picked it up. It is probable that about that place I will find him, supposing the steamer *Stanley* fortunate.

2nd. Supposing the *Stanley* unfortunate and wrecked, and say three months transpired before other steamers were procured, then up to 1st September will be nine months, and he has made two of our camps per month, and we may find the Major at about the first cluster of large villages we met.

3rd. Supposing six months transpired before the goods were brought up to the Major, then we may find him about ten or twelve camps above Yambuya, which would be about our third camp after reaching the river, and where the "Remingtons" were cleaned up.

4th. Supposing that up to date he still awaits his goods; why, then, we will find him at Yambuya itself unable to move, because 128 men under Ward and Bonny, and the goods under Troup, have not yet arrived. In this case the position is serious; but remediable provided the Major has not diminished his force by search of aid. If the Major has 40 Nubians, 5 Somalis, and say 60 Zanzibaris, we have 100 men added to our force of 111 Zanzibaris with me and 50 with you at "Fort Bodo," total 261—quite sufficient, if well armed, to drive through to Zanzibar unaided by anyone. The goods left at Yambuya under the Major's care were:—

12	loads	Stanley's general baggage.
24	„	Provisions, European.
24	„	Remington cartridges.
38	„	Winchester „
22	„	Maxim „
15	„	Brass rods.
1	load	Tobacco.
1	„	Cowries.
15	loads	Officers' baggage.
152	loads.	

Rice, biscuits, salt, &c., &c.

To carry which we hope to have 220 carriers on arriving there.

As regards Remington ammunition, then, we shall have; if the fourth proposition is the reality—

31	boxes	Remingtons delivered to Emin Pasha.
22	„	„ at Fort Bodo.
5	„	„ with me.
20	„	„ at Yambuya.
11 (?)	boxes	„ buried at Nelson's camp.
89	boxes—total of Remingtons.	
2	„	Winchesters with the Pasha.
4	„	„ at Fort Bodo.
1	box	„ with me.
38	boxes	„ at Yambuya.
7	„	Maxims at Fort Bodo.
22	„	„ at Yambuya.
163	boxes of cartridges.	

This ammunition is enough for all purposes of bringing away Emin Pasha, if this supply is our sole reliance.

Thus far I have resolved that if the Major has been left at Yambuya all this time without aid from Stanley Pool: to bring him away, his men and goods, and do without Troup, Ward, Bonny, and their 128 men, though it will be a huge misfortune not to have cloth and beads. But in case of this last and final proposition being correct, it is our only resource if we wish to leave Africa at all. To go down to Stanley Pool is totally out of the question.

H. M. Stanley.

N.B.—Lest there be no more ammunition "Remingtons" than those boxes left by me at Yambuya (twenty-four), it behoves us to be most careful not to waste any shots by *salutes* or *firing at targets*, fowls, goats, &c., &c. Considering the long silence of our twenty carriers it is well to prepare ourselves for the last and darkest condition of things. I have done so, and show you what may be done by us if such turns out to be a reality. At the same time we hope intensely that things are not quite so bad as all that. Go on planting corn, the rains have well begun. We send you some rice also for planting. Plant, sow, and plant, as though you were going to make a long stay at Fort Bodo. If Jephson comes, well, you can go along with him. If Jephson does not turn up, you have abundance of food for yourselves.

Let us all each one do his duty in the best possible manner, heartily and hopefully, you at Fort Bodo with your garrison, I with my people, and things will come right in the end.

HENRY M. STANLEY.

To—

Lieut. Stairs, Captain Nelson and Dr. Parke, &c., &c.

JUNE 26.—We marched a few hundred yards beyond the next boat camp, and camped at noon at the verge of a banana plantation; so as to give the men an opportunity of obtaining a supply of food. The men called this camp Longoli. We got no food, however, but had a shindy with the natives.

JUNE 27.—We passed Mr. Stanley's second last camp, where Wadi Osman lost his way. At 11 o'clock we halted for terekeso (luncheon); camped at 2 P.M., at an old boat camp. Khamis, who is carrying the Maxim shield, did not come up when the others had gathered into camp; so I sent Edi, Khamis Nasibo and Sudi back for him. They returned without him, in three hours; they said they had been to the place where we had had our terekeso (one and a half hour's walk), and stopped there and shouted as loudly as they could, but got no answer, and saw nobody. As I did not believe their story, I ordered them back again to find Khamis; they went off in very bad humour!

JUNE 28.—The three men, whom I sent off last evening to search for Khamis, did not return during the night; so I went with two men, early in the morning, to search for him and them. After half an hour's walk, I saw the three whom I had sent out coming strolling towards me. When I met them they told me a long story about having followed Washenzi while on the search for Khamis, and having failed to find him. I then brought on all five men with me, and, after passing Mr. Stanley's old camp, I came upon Khamis, who was sitting with an Mshenzi before a fire. It turned out that he had spontaneously gone on an expedition by himself, and failed to get back. He was thoroughly exhausted, so I was obliged to have himself and the shield carried to the camp—another illustration of African reliability.

We are very badly off for food, having now found none for the last four days. I hope, however, to find the supply of corn, which I interred in the floor of one of the huts, when we were on our way back to the Manyuema camp.

JUNE 29.—We left early, and marched on to Mr. Stanley's

third last camp, where I found the buried corn which I had left there as a precaution. So I was able to give two cups of corn to each man; and three each to my boy, and Monbuttu "*dwarf*."

We halted at 2.30 P.M., and camped for the night.

JUNE 30.—Marched early, and halted, where I left Stairs with the boat. Khamis again broke down, and I was obliged to have his load of three rifles carried for him. I was in the rear, so I sent on word to Wadi Osman my chief, to stop and take the rifles, as two of the three belonged to his men. But the wretch paid no attention, and went on—a good specimen of Zanzibari discipline. So I had to carry the rifles myself; and, on reaching camp, I used some gentle remonstrance with Wadi Osman with my fist, after which he became very submissive, and would do whatever I asked without a murmur of dissent.

JULY 1.—We marched from Mabanti to a banana plantation; where the men were gratified by getting a plentiful supply of Indian corn. Khamis did not arrive at camp last night, so I sent out two men to search for him, but they returned after a couple of hours, saying that they had searched everywhere along the path, and could not find him. This account I did not, however, believe, as they were very reluctant and timid about going. If they had retraced our line of march for half an hour, I believe that they would have found him—dead or alive.

All my men are now confirmed *goee-goees* (too lazy to do anything), and *wagonjwa* (sickly).

JULY 2.—Khamis did not turn up, so that I think he must have died; the poor creature had been wasted to a mere skeleton. We marched three and a half hours—to Kilimani—to-day. All my loads are still correct, although my twelve carriers are perfect goee-goees, and the two Mahdis have a guinea-worm each. The Monbuttu (dwarf) woman is worth any four of my men now.

We remained all day at Kilimani. Only a few men went to search for food, although I told them all to make what provision they could for marching on to-morrow. But they have no forethought—none: the observation that the black man at any age is still but a grown-up child is, in my experience, critically accurate; and, although an interesting fact to the psychologist

and the ethnologist, is a most provoking peculiarity to have it to deal with under circumstances like the present.

JULY 3.—I made an early start, as I intended to march without delay. When I gave the order to fall in, there was a general muttering grumble from every one of the huts; the men said that they were not able to start to-day, so I was obliged to postpone the advance till to-morrow. This was the result of their not having gone for food yesterday, as I had wished them to do; considerably less than half the number had made the smallest effort to procure anything for themselves. Accordingly I told off a party to fetch bananas, which were to be found in plenty at a distance of not more than *a few hundred yards;* but as soon as my back was turned they sneaked into their huts again! *I was greatly provoked,* and I often think they are not worth keeping at all.

My Monbuttu woman amused herself this morning by picking insects off a child's head, and eating them—just as a monkey would do.

At 5 P.M. Baluzi returned to camp, having received a very bad penetrating arrow-wound of the back (on the right side). The point had obviously passed deep into the substance of the right lung. The men who were with him say that they removed the arrow-shaft, but that it had broken short at the head, so that the barbed iron point is embedded in the lung. It is quite out of reach of extraction without having recourse to unjustifiable measures. He is a half-witted creature, and had lingered behind the others on the way. The natives were crouching along the path; and utilised the opportunity of letting fly at him, when they saw him separated from his comrades.

The men got plenty of bananas and corn to-day, when I had again driven them out to procure them—very much against their lazy will, apparently. I started early with all the loads. My Monbuttu and all my men were well weighted. My boy and myself carried a load of rifles each; I carried Saadi Baluzi's load, as he is very weak. At 2 P.M. some natives attacked us on the path, and we had an exciting chase after them. We camped at 2.30 P.M. close to a *tongoni, i.e.* a clearing, where there are plenty of sweet potatoes. Saadi Baluzi is no worse. The poor fellow was able to walk tolerably well, although he suffered a good deal from dyspnœa:

his respiration—with a wounded pleura and lung—is necessarily shallow, and accompanied by a good deal of distress.

JULY 4.—My pigmy comes from this district.

JULY 5.—We marched early, and reached a pigmy camp, close to the position of my old camp, which I had used when coming from Ipoto with Stairs' relief party.

JULY 6.—We reached Fort Bodo about noon, with twelve Zanzibari and two Mahdi porters—the latter very sick, the former not much stronger—also my boy, and Monbuttu woman. The fourteen loads were brought in—all correct. I found Stairs and Nelson very "fit." They said that I looked pale and worn, &c., but this was merely due to the exertion of carrying, and lifting of the loads on to the men's heads, which was very fatiguing work. I handed all my stores over to Stairs, feeling glad to be relieved of the responsibility, and so far satisfied that this small section of my work has been completed.

JULY 7.—My agricultural experiments are succeeding well here. The seeds (brought from Emin Pasha) which were sown here are coming up, and doing prosperously. The rice which I received from Kilonga Longa will now be planted in a few days.

There was very heavy rain last night, and the room I sleep in is deluged with water; the rain came through in streams last night, as the roof has little or no pitch.

JULY 8.—I am indulging this evening in a somewhat gloomy retrospect. Twenty-nine men had been left with me originally at the Manyuema camp, and Dualla (a Somali) was afterwards left by Stairs, making a total of thirty. Of this number exactly half have now died. Piringani managed to reach Fort Bodo, with seven skeletons, and but one rifle among them. Nelson and myself remained in bed all to-day; we had both been attacked with bad fever. Providence does not appear to intend that any nook of Africa should afford us a haven of rest; alternate drenching by rain and combustion by fever fill up our present programme.

JULY 9.—My fever is somewhat better to-day, but I am not able to do much.

JULY 10–14.—Stairs has done much to improve the fort, and farming at the settlement has been so far successful.

JULY 15.—Saadi Baluzi, who had been wounded at Kilimani,

died last night. I made a post-mortem to-day. I found that the head of the arrow had grazed the base of the right lung on penetrating the chest; and had then lodged in the diaphragm, close to the edge of the cordiform tendon, through which the point had passed. The right lung was completely collapsed, and the pleural cavity entirely filled with a reddish fluid, a considerable proportion of which was clotted; the remainder was fluid. This large collection of fluid was, of course, partly due to the hæmothorax, which resulted immediately on the occurrence of the penetrating wound, and partly due to the serous effusion which resulted from the necessary complication of pleuritis. Seeing this state of things, I had, of course, the melancholy comfort that nothing which I could have done for him would have saved him: for an operation to remove that arrow-head would simply have freely laid open the depths of both thoracic and abdominal cavities, and would in itself have been necessarily fatal. The wonder was that the poor man had been able to live (and even to march with the rest) for eleven days. He had, of course, suffered greatly from dyspnœa, but the inflammatory fever which followed the wound had never been very high. This is explained by the fact that there was little appreciable evidence of inflammation of any other organ or structure than the pleura, and the pyrexia of serous inflammations is characteristically moderate. There was hardly any pneumonia, the occurrence of which would, of course, have produced a much higher temperature; but the lung substance was very little torn.

There was a great scare in the Fort at 11.30 A.M.: two shots were fired in quick succession close by, and a number of wild natives were shouting fiercely in the bush around the Fort. At this time all our men were away getting bananas, with the exception of five or six of the most emaciated of our skeletons, who were not able even to crawl about. The Fort is always deserted on Sundays, as we give the men a holiday on the Sabbath. This fact led us to believe that the savages, having probably ascertained our unprepared situation, had planned an attack upon us, while having nobody but our boys and a few sick men about the place. The alarm, however, soon subsided, as the noise suddenly stopped. Half an hour afterwards one of our men returned, and told us that he had shot at natives, amongst the bananas, but had missed them. A typical

Zanzibari marksman! The majority of these people are really the most harmless in the world to entrust with a rifle.

JULY 16–18.—We are busily engaged in our agricultural pursuits, rapidly planting our crops, as the rainy season began with the month of July. There are two rainy seasons here, the first in February, the second in July; it is during these seasons that grain must be planted. As we are in fairly good time, we do not fear that our crops will not be abundantly watered; we have only to hope that a beneficent Providence will give the increase accordingly.

JULY 19.—I went on ruga-ruga (police duty) with seven men to-day, to scare off the Washenzi, and prevent them from stealing our bananas, as they have been systematically doing. I left at 7 A.M., and returned at 4 P.M., having been on foot all the time. I went in a south-westerly direction, and did find some dwarfs stealing bananas. I fired some shots, and scared them away. No one, however, was wounded, as they were all able to make off with great speed. We reached a pigmy village, and found a large game net, about fifty yards in length, and beautifully woven. The meshes are of about the same size as those of a strong fishing net. They are made of bark and grass. I also secured several quivers, well filled with poisoned arrows, which I burned there and then; also a number of bows with them. When I saw that the village upon which we came was of considerable extent—or, rather, that it was the first of a long chain of pigmy villages—I hastily retraced my steps with my men, as it was not exactly a desirable neighbourhood to loiter in—with but seven followers, while hundreds of cannibal natives prowled about, armed with poisoned arrows. The only meat I found was a dried monkey. On our return through the bush, we were closely followed by the natives; who tried to get in front of our party, and cut off our retreat. They wounded one of my men, Ali Jumba, with an arrow, but not seriously. At the entrance of our banana plantation, I remained behind for a while with two of my men, under cover of two large trees; and waited for the natives to come on, but they were too wary for this, and declined to avail themselves of my intentions. They would not come directly forwards, but turned in among the bananas so as to intercept us; but we, in our turn, evaded their device, by taking a path in another direction.

This police work is absolutely necessary for self-preservation, as without it we cannot protect our banana plantation till Mr. Stanley's return. It is excessively dangerous work too, for the aborigines suddenly get on the logs which are lying about everywhere in the forest, and throw a poisoned arrow into one with the speed of lightning. If such a weapon penetrate at all deeply, not all the powers of man can save the individual who has been hit. All our men now wear buffalo shields which we have brought from the plain; but the officers have not adopted them yet; as we are vain enough to think it would look like cowardice. Yet it might be the salvation of any of us—any day—to utilise this protective medium. We should not, I am disposed to think, pay so much attention here to what Mrs. Grundy will think proper to say at home, if we are ever lucky enough to get there.

These dwarfs are very cunning, and play all sorts of dodging tricks to throw us off their path. They walk for some distance along a beaten track, and then suddenly disappear into the bush; then they unite again at considerable distance ahead, and send some of the party back along the path towards us, while the main body go on towards their village, thereby trying to make us believe by their footprints that they are going in the opposite direction, and that we are running heel all the time.

Very heavy rain fell after our return from the ruga-ruga to-day. We ordered Fathel Wadi Hadi, who had caught a woman, to fetch her to us. This he was, obviously, very reluctant to do; he temporised by saying that she was caught by Ali Jumba, which was, of course, untrue. So we told him sharply to make no such excuses, but bring her at once. He was very slow about it, nevertheless, and stayed to wring his clothes (which had been drenched with the rain) before he went. This proceeding annoyed Stairs so much by its insubordinate display, that he struck him across the right shoulder with my stick. The stick broke in this operation, and the iron spike scratched the skin of Fathel's left side. The men were very rebellious about this, and about fifteen of them collected, and inquired if Stairs had really prodded him with a spear or not, as Fathel had told them so. Stairs then explained to them that he had not struck Fathel deliberately at all; that he had merely punished him for his insubordination, and that the wounding by the iron spike was quite

accidental. Public opinion immediately went round on hearing this version of the affair, and they all vowed that if Fathel Wadi Hadi did not openly confess that he had been hit with a stick, and not prodded with a spear, they would all beat him with sticks to-morrow!

JULY 21.—Nelson went on police duty to-day, but did not see any natives at all. After work, Stairs called the men in to give them ten heads of corn each. Sheban Bin Amur stepped forward to pick up his share, when Stairs ordered him to fall back into his place. Sheban Bin Amur then made some mutinous remark, when Stairs immediately struck him. He then left the yard, and immediately returned, with a threatening aspect, and carrying a large stick. He went on to say that Stairs had purposely struck Fathel Wadi Hadi with a spear. Stairs then told him that he would take his name off the book forthwith. The men afterwards held a shauri among themselves; and I believe that about thirty of them are very desirous to go on to the Albert Nyanza. I recommended Stairs to give the men a hearing, as they wished to have the privilege of shauris to reason out matters which concerned them so much. So he said he would take my advice. He has a very responsible and anxious post as commandant of the Fort. I can see that the minds of the men are pretty hot now, and, unless they are judiciously manipulated, we three white men will be left to ourselves here to look after the boxes, and take care of the other interests of the Expedition.

JULY 22.—A good deal of discontent in the camp still. The one great reason of this certainly is that the men are burning with desire to go back to the plains, where they know that there is plenty of food to be had.

JULY 25.—Sheban Bin Amur came up this morning, and begged Stairs to pardon him for the men. When he was forgiven, about thirty of the others came up, and fell down before Stairs. This represented the faction which had been taking counsel to desert the Fort, and go off to the lake. They crouched along the ground, and kissed the "Master's" boots as a mark of penitence.

We are anxiously looking forward to Sunday, as we intend killing a sheep; an event which will, I feel sure, tend to promote peace and contentment. On the day of my return from the Manyuema camp there were two goats killed, one of

which we ate; the other we gave to the men. We have three sheep remaining, which will give us one a fortnight, in case Jephson comes up to time.

The ants are the most annoying enemy we have to deal with here. They come periodically, and take possession of the Fort, driving us quite out of doors. The natives capture them in great numbers, by making a hole close to an ant-heap, and putting a little fire in it at night; before morning this hole will be filled with ants, as they are attracted by the heat. They are then brought to camp, pounded up, cooked, and eaten, tasting somewhat like caviare. The food so prepared is called *noussoir*. The most palatable variety is that prepared from the white ants, which we eat as a *kitawayo* (condiment).

JULY 26—AUG. 3.— . . . .

AUG. 4.—Last night, a very large elephant came up to within twenty yards of the Fort, and ate a great quantity of our young Indian corn, which we had been congratulating and priding ourselves on having cultivated so successfully. Stairs was alarmed by the sentry on duty, who was aroused by the disturbance caused by the movements of the unwieldy trespasser, and fired at him with his Remington. He then moved off to a short distance, but stopped there, and commenced to browse on our corn again. The ivory war-horn was then blown, which had the immediate effect of causing a retreat into the depths of the forest. This happened about 2 A.M., and the night was so still and silent that we could distinctly hear the movements of the colossal brute as he passed into the bush, accompanied by the uprooting of trees, tearing off of branches, and trampling down of the undergrowth through which he passed.

These elephants have now commenced tearing down trees, and eating up our bananas, in a quite systematic way. This is really serious for us, as, if allowed to go on in this fashion, we will, at the end of a few weeks, have neither bananas nor corn for the men to eat, and there is little chance of any other source of supply. So great a source of anxiety has it become, that our one great hope now is of the relief, which we are hoping and praying that Jephson and Emin Pasha may bring us. We arranged with them on the shore of the Nyanza that they would not neglect us or forsake us if left for very long in the depths of the forest, and we do trust that they will take care to redeem their

promises in good time. We have already recommenced the life of grazing, as we are living largely on fungi, leaves of the pepper plant, and grasses. These, when all pounded together, make a sort of spinach (*mboga*), which hunger enables us to taste with some moderate degree of enjoyment. The corn is still very low; but we shall have young peas and French beans to exist on after a little, if we can keep off the elephants and other trespassers.

I have been ailing with a sore finger (paronychia) since the 25th ult., so that I was unable to write in this interval.

Aug. 5.—I have given my little pigmy *carte blanche* to visit her own people, but she will not leave.

Aug. 6.—Nelson has been very ill with fever for the last few days. Yesterday I gave him 40 grains of quinine; he is somewhat better to-day. I shot two doves yesterday, which were a very acceptable addition to our provision store, as we have no meat now remaining but two live sheep, and we can afford to kill but one of these every fourteen days.

Aug. 9.—At 1.30 A.M. this morning Stairs came and woke me up to go out to the sentry-box, and listen to some noise which was going on in the tobacco plantation, that we had formed at a distance of but fifteen yards from the boma, immediately outside the stockade. We could plainly hear the breaking of the stalks of tobacco, but were uncertain as to whether some natives had come to do the mischief, or perhaps some roaming quadrupeds (antelope or elephant would be the most likely of these). One of our men then coughed, and all the noise instantly ceased. In the morning we investigated the cause of the nocturnal disturbances, and found the footprints of about a dozen natives, who had been wrecking our little crop. This is another very serious omen for our future here, as it means that the natives will come and take our corn when it is ripe, and perhaps set fire to the place.

When disturbed last night we visited the other sentries around the fort, and found them all asleep—the usual condition of a Zanzibari when placed on the watch. We did not fire a shot last night; we suspected that the trespasser was a bush antelope, and we did not want to fire without being able to take good aim, as we are very ambitious to kill one, on account of the scarcity of food. Food is growing terribly scanty now; the men are living on wretchedly small bananas, and we have

nothing for ourselves but some beans, corn, and mboga. (The term mboga includes leaves of trees, tops of bushes, sweet potatoes, yams, potato leaves and fungi, all mashed up together, so as to form a mess somewhat like spinach.) We are, accordingly, beseeching Providence that Emin Pasha and Jephson will soon come and deliver us.

Having now had to speak Kiswahili for so long a time, we have come to forget many of our ordinary English words; and are often actually confused about the names of things when we are talking among ourselves. To-day there was a competition between Nelson and myself, as to who could remember the name "egg" first—pointing at the well-known article.

Stairs is confined to bed with intermittent fever. I have made a bird-cradle, to try and catch some birds for us to eat. It is almost impossible for any of us to go out in pursuit of game, as there are no men able to accompany us for defence against the natives—they are nearly all disabled by enormous ulcers.

AUG. 10.— . . . .

AUG. 11.—This morning there were twenty-five badly sick among our force of fifty-five. Many of the others are very weakly indeed. A good many are malingering too; the Zanzibaris are rather good at this kind of thing. I recommended Stairs to hoe up the ground around the huts, and to have the ash-pit removed further from the camp, as it is filling up fast; and, above all, to have the inside of each hut thoroughly cleaned out at least twice a week, as the habits of the Zanzibaris are disgustingly filthy. They scrape holes in the floor in which they wash their ulcers; they vomit and expectorate on the floor, and cover the ejecta over with clay. I am occasionally treated to the sight of these creatures putting their food to boil in the pot in which they have just washed their ulcers, and without having taken the trouble of washing it well out afterwards, &c., &c. The starting point of these ulcers is undoubtedly contagion in many cases; this is conveyed by flies, &c., and any parts so affected (as by irritation of fly-bites, &c.) immediately becomes the centre of a rapidly spreading ulcer.

Surely, the sooner we get away from this place the better; food is getting scarcer and scarcer, and whenever the wind blows from the west—passing over a swamp which is near our camp on that side—it carries the fever poison in among us,

and every one of us gets a turn of the "intermittent." I have but one boy and a pigmy to look after me, as Mr. Stanley took my second boy with him to carry a load, being so short of carriers.

I had a special surgical operation imposed upon me to-day—the circumcision of Kibori (Nelson's boy), who required this finishing touch to place him on a par with the Zanzibari boys. The institution of this Oriental operation reaches to the most remote antiquity, more than 2400 years before the Christian era.

Aug. 13.—The peas and pumpkins are flowering, so that we shall soon have vegetables. I have just had a row with my boy, Muftah: he is a thoroughly typical Zanzibari—a dirty, deceitful, lying, greedy young rascal he is, when he likes.

We killed a sheep yesterday, so that we are all strong and in good humour to-day, having had the chance of digesting some good wholesome meat. We are all hugging ourselves with the idea that Emin Pasha may soon send for us, as we have but very low rations to live on now. Ten heads of Indian corn, ground into meal, are given to each per diem. This meal is served up in three ways: when of very thin consistence we call it "soup," or "ugéé"; when thicker, merely scalded, it is called stodge, or "ugari"; an intermediate form is known as "porridge."

Stairs has had continued fever for some days. Nelson and myself have decided to kill the donkeys when food becomes much scarcer than it is at present. We have now eaten most of the things which the country seems to produce, and we are still on our legs to tell the tale; this recollection should, I suppose, help to buoy us up in our present position; but philosophy is often disappointing—when appealed to under the influence of an empty stomach, and a frame affected with general debility.

The rats are devouring everything here; they have finished our home-made boots, and have now commenced our blankets. This gives us additional trouble, as the making of a pair of boots engrosses all the spare time of a week. We make them after the fashion of veldtschoons (Dutch shoes), with soles of buffalo, or hippo-hide, and uppers of ox-hide; but the stitching is the difficulty. I have known of but one instance in which the Zanzibaris have eaten rats; they do not, however, very often catch them. Nelson prepared me a luncheon yesterday, which would have been worth 7*s.* 6*d.* at the "Métropole," made from small fish, one inch in length, caught in baskets in the stream.

On Saturday last, I had a list of twenty-five sick; and, of the numerous other members of our force who were seedy, four were unable to walk; so that twenty-nine, out of the fifty-five men here, were quite incapable.

Very heavy rain fell yesterday, which deluged the whole place in five minutes. We have built a very fine house for Emin Pasha, as we expect that he will stay here for some days bug-hunting. To-day Stairs had his tobacco cut and laid out. I have no doubt, indeed, that at home in the British Islands it could be as well grown and cured as here.

I am running short of dressing for ulcers; so I took the powder out of a number of my cartridges to-day, and applied it as a dressing. It certainly exerted a marked deodorising influence, and is also useful in itch-cases after the patient has been well rubbed down with a wisp, and sand-and-water.

Aug. 14.— . . . .

Aug. 15.—We sent two men to-day to get some sweet potatoes; they returned early, saying that there were none. Another discouraging factor! So Stairs and myself tried to make ourselves comfortable with a luncheon which consisted of half a cup of matammah flour and some French beans. One man grinds corn for us three officers, so that we have barely a sufficient quantity of meal; and it is invariably sour before we come to cook it. We are afraid to eat much of it; it is so precious now, and our reserve may be exhausted before we can get any relief.

I have some few ulcers on my leg; my boy, Muftah, has some on his gluteal region, so that he has been obliged permanently to relinquish the sitting for the erect posture during the day-time. None of us white men have had any fever to-day, although some of the men are bad with it. We are now so accustomed to the existence of fever with us and around us, that we have almost come to regard it as a normal condition, and I have given up taking notes of its occurrence. Undoubtedly, the Zanzibaris owe a great deal of their physical ill-being to their timidity and laziness, combined with the customary filthiness of their habits.

Aug. 16.—On awaking this morning, I felt the well-known sensations, premonitory of a return of my old erysipelas; and, surely enough, when there was sufficient light to see it, there was the rosy blush over the left hip, and accompanied by

enlargement and tenderness of the inguinal glands on the corresponding side. I felt sickish all over, and remained in bed. My temperature was, however, still normal; but, after an interval of an hour, I found that it had risen to 102° F., and, during the course of the forenoon, it got up to 104° F. The fever was of the typical agueish variety, so it is a study of some interest to investigate the connection between the local disease and the general pyrexia. Did the erysipelas cause the fever; or, was the fever a constitutional one with a definite local lesion? There was a good deal of puffiness under the eyes, and severe deep-seated lumbar pain. The skin was dotted over the affected area with elevated patches like those of urticaria. There was no pitting, however, on pressure.

Aug. 17.—I remained indoors as much as possible during the day. The fever was gone this morning, the puffiness under the eyes had diminished, but there was still intense pain over the erysipelatous area, accompanied by extreme tenderness. I took a large dose of quinine.

Aug. 18.—Still invalided and remaining indoors. Nelson saw my sick to-day; but one very bad case was brought into my hut for inspection. Of the whole force of fifty-five (men and boys) now in camp, about thirty have ulcers, and three of these are simply rotting away. Emin Pasha's house is now finished, so that if he does not come we will be doubly disappointed: having had all this trouble for nothing. Nelson's fore-arm is greatly swollen and inflamed from an insect-bite; so I bandaged it up.

I fell into a grievously bad temper to-day, as is always the case when my internal organisation (liver, &c.) is out of order, before and after this African fever. It is a symptom which always manifests itself, whether the affected individual be naturally gifted with a good temper or a bad one.

Aug. 19.—Stairs and myself have just made out a complete list of the sick in camp, with their respective diseases. It is as follows:—

Ulcers	25
Debility	2
Struma	1
Periostitis	1
Iritis	1
Total	30

s 2

These invalids receive treatment twice every day; most of them take their turn as sentry, as they are merely required to *sit* at their post for a few hours at a time. So that we have made out a second classification of the total force:—

Unfit for work	11
Fit for light work only	19
Officers, 3 Boys, 3	6
Balance (in poor condition)	19
Total	55

It is very hot to-day, and there has been but little rain for some days past. Our Zanzibaris are great schemers and malingerers. The members of the latter tribe always convey their bodily grievances to Stairs or Nelson, so that they may have a fair chance of getting off work; they are cunning enough to guess that if they came to me they would be detected. The poor wretches are certainly eaten up in a dreadful way by these horrible ulcers. The fact is that their tissues have no resisting power—they are nourished on the very poorest diet—the great majority getting nothing to eat but small undeveloped bananas, while the very weak ones receive a few heads of corn as an extra ration. Under these circumstances, the smallest abrasion of the surface soon spreads into a great corroding ulcer, which rapidly assumes a moist, gangrenous appearance. But the worst of these appear to be connected with the bites of flies; and when a fly goes from an ulcerated surface to an unbroken one—whether on the same person or another—his prolonged stay is sure to be followed by a point of irritation; from which as centre, the ulcerative process quickly spreads.

I filled their medicine chests for Stairs and Nelson to-day. The former had given away some of his medicine bottles to the Manyuema. These medicine chests are very handy for the officers when they are separated, and have to do some amateur doctoring, at a distance from me. I gave some beef-tea tabloids to three of the invalids to-day, but they were "blue-mouldy."

AUG. 20.— . . . .

AUG. 21.—About 11 o'clock last night, the sentries in the south-east tower reported the presence of a wild pig outside the boma, or stockade. On closer inspection by Stairs, it

turned out that about a score of natives were in our tobacco-plot stealing our little crop of the weed. Seven or eight shots were at once fired, and two of the natives were shot dead; the remainder ran off in different directions. After a short time, they commenced calling to each other; in order, I suppose, to find out who had been hurt. One of the natives who had been killed by our shots was a circumcised individual. We found, when morning allowed us to explore the neighbourhood, eight baskets of sweet potatoes at the end of the Kavalli road: they were close to a fire, where some of the natives had evidently been making themselves comfortable while they waited for the foraging party, and from which they had taken to their heels on hearing the shots.

Last night's adventure will, I expect, keep us clear of plundering natives for some time to come. Many of them left their bows and arrows behind when they ran off; they will probably be afraid to return for them now, and we will have less to fear.

Aug. 22.—Nelson's birthday. The poor fellow is very seedy to-day; and our surroundings and immediate expectations are not such as would tend to brighten any one's birthday very much. Stairs had all the huts swept out to-day—the Zanzibaris are most abominably filthy in their habits, a fact which is re-impressed upon me more forcibly every day. There are twenty-three sick this morning—out of our total force of fifty-five. This indicates some improvement.

Aug. 23.—It is exactly three months to-day since I left the Nyanza; so that I think Emin Pasha should soon be here. I was obliged to lie all day in bed yesterday, as I had an inflamed leg and high fever. My boy, Muftah, like all the Zanzibaris I have met, is a most terrible liar. He is supposed to go every day to look at the bird-trap. I asked him yesterday, "Have you seen the bird-trap?" He at once answered, "Oh, yes, master!" I asked, "Where is it?" The prompt reply was, "It is in the same place." I said, angrily, "You lie!"—I had removed the thing two days ago; nevertheless he would argue confidently with me that he had seen it every morning, although I had detected him in the falsehood.

Aug. 24.— . . . .

Aug. 25.—I have been obliged to lie down during the

greater part of the day on account of the state of my leg. I have inflammation of the lymphatics (angeioleucitis) all the way up the front of my right shin—from the instep to the knee. It is terribly painful; and, in my present shaky condition, has been enough to complete my prostration. Hanamri died to-day. He was a weakly lad, whose system had been thoroughly undermined by the starvation which he had suffered. He retained just strength enough to reach this place from Ugarrowwa's camp. He had on his left foot and leg the worst gangrenous ulcer I have ever seen; it extended from the bases of the toes to above his ankle, and was rapidly spreading up the front of the leg. The discharge was very offensive, and the sloughing process had extended through the soft parts; destroying the connective tissue and muscles down to the bone, and dissecting out the tendons, vessels and nerves. The man seemed to be a thorough fatalist; he emphatically declared he knew that he would die, and he kept his word. I do believe that the unflinching opinion which he held on the subject was an important factor in the verification of his prediction.

The average daily number of sick attended now is twenty.

Aug. 26.—We killed our last sheep to-day, and when this is finished we are condemned to live without meat till either Mr. Stanley or Emin Pasha arrives. Since my return from Kilonga Longa's camp, on the 6th of June last, I have not quite averaged one meal of meat per week. The Zanzibaris have broken into our garden, and stolen the few onions I brought from the lake. All our men are now off collecting bananas, and everything else they can get in the shape of food. It was on this day twelvemonth I amputated Juma's foot; he is now fat and strong, and on his way down river in a canoe—from Ugarrowwa's—as he is unable to walk, nobody having been handy enough to make him a wooden leg.

Aug. 28.—We finished the last of our meat to-day. We have had a plate of peas—grown from the seeds which the Pasha gave me at the Nyanza. He also gave me brinjals, water-melons, and pumpkins, all of which are very poor, and not yet fully formed; the onions were planted at the same time as the peas—about the 10th of June—but they are not fully formed as yet. The bulb is not developed, and the stalk is but three or four inches long. We shall now have to live by

grazing—until Jephson and the Pasha come. It is a curious country this, in our experience of it—we eat the leaves and tops of every green shrub and grass about the place, and, as yet, with impunity.

Aug. 29.— . . . .

Aug. 30.—Bin Shumari was caught last night in the act of stealing beans and corn. He got "twenty" with a rod this morning.

I had gruel for luncheon to-day, also gruel for dinner. It was, on each occasion, spiced with some capsicum; so that the flavour might diminish its mawkishness a little. We had picked the small red pepper-pods—chillies—of about a quarter of an inch in length, dried, and powdered them. The pepper so freshly prepared is, certainly, *very hot*. The shrub itself is about five feet in height; its leaves make a good spinach.

At 4.30 P.M. a violent tornado swept over the fort; followed by torrents of rain and hail. The hailstones had an average diameter of half an inch. The roofs of some of our houses were blown clean off, many trees were prostrated around our encampment; everything looks wrecked and desolate since the storm blew over.

Aug. 31.—Stairs had bad fever to-day. The men are allowed a holiday to try to put their huts into repair—after the ravages of yesterday's storm. Our promising field of corn has been completely prostrated by the terrible hurricane and ponderous hailstones; it is hopelessly spoilt. It is a serious outlook for us, poor sojourners in the land as we are: all our crops are wrecked, the brinjals and melons are smashed to pieces; the onion-stalks have been broken off by the hail; the tobacco-leaves also have been broken off by the falling stones, many of them neatly *perforated*. The men say that the corn may rise again after a hot sun; but at least half the crop has been hopelessly lacerated, which is very disheartening. Nelson tells me that when he was ostrich-farming in South Africa, he saw hailstones penetrate corrugated zinc roofs in their fall, and kill ostriches in the sheds beneath.

Sept. 1.—There was a very hot sun to-day. The corn is looking a little better; some of it again tends to the upright position; but a large proportion of the stalks have been utterly broken, and can never raise their heads again. The men are constantly dreaming about Emin Pasha's coming; some of

them said this morning that he was certain to arrive to-day. They seem to be great believers in vague spiritual impressions of various kinds.

SEPT. 2.— . . . .

SEPT. 3.—Khamis Faragi died last night; the poor fellow's death was a great relief, as his case had long been utterly hopeless, and he had to be looked after in every way—food, wood, fire, water, &c., &c., had to be provided for him. His vitality was indeed—like that of the other invalid Zanzibaris whom I have had to treat—perfectly astonishing; I do not think that the poor fellow had three pounds of solid flesh on his body. He was one of the lean kine who had returned to us from Ugarrowwa's camp, and since that date he had existed, literally as a living skeleton, whose bones were held together by skin and ligament—a more melancholy spectacle I can hardly conceive.

The usual custom of the Zanzibaris when one of them becomes very ill indeed—especially if the disease happens to be a foul ulcer, or some other complaint likely to excite disgust, and he becomes entirely unable to help himself—is that the poor invalid is utterly deserted by his comrades, and abandoned in a separate hut, to live or die alone. It is certainly one of the shabbiest moral features of the tribe, as there is a great deal of kindness among them when all are able to go about together.

CHAPTER XIII.

LIFE AT FORT BODO.

Anxiety of the men to get back to the plains—Ali Jumba's proposals—We hold a council, and agree that to evacuate the fort would be fatal—The mischief-making clique of Zanzibaris—Recent events do not improve our powers of mutual forbearance—Scarcity of idols in Central Africa—Ninety-nine per cent. of our Zanzibaris have had ulcers—Mohammed A. and Nubian boy lost in the forest whilst foraging—Their probable fate—Porridge made from bananas—List of European provisions for the officers of the Expedition taken from Yambuya—Unsuccessful food expeditions—My boy captures some fish: flat worms in the same—Sufferings of the Mahdi men from "guinea-worms": their description and growth—Annoyance of rats at night-time—The men's latrine at the fort—Garden plots—The first pumpkin of our own growth—The *ascaris lumbricoïdes*—Result of our want of exercise—Nelson, Stairs and myself down with fever and its accompanying ailments—Our beautiful white teeth due to the lack of albuminous food—A Zanzibari tooth-brush—Thoughts of home—Stairs ill with an anthracoid sore—Hopes for Stanley's early arrival—Our boys capture a snake—Respective weights of Nelson, Stairs, and myself compared with former records—Damage by elephants to our plantation—Cooking utensils of the natives—My little pigmy woman pays great attention to me—We enjoy the night air—Condition of the crops.

SEPT. 5.—Ali Jumba came to Stairs yesterday, and told him that all the men had held a shauri; and had unanimously expressed their great anxiety to get to the plains. He came as their representative, and made two proposals, as the men were growing impatient of the long wait for Emin Pasha, and had but wretchedly poor food to eat: *first*, that fifteen of the strongest men of the force would go with one white officer to the edge of the bush, and, if they found the natives friendly, they would push on with a letter to Emin asking him to come and relieve us at the fort—*i.e.*, to assist us to carry the loads to the lake; if the natives were inclined to show fight they would try and bribe a friendly native to carry the letter through to Emin, and then retire. The *second* proposition was, that all the men would evacuate this fort completely; conveying the loads by double journeys till they arrived at a good banana plantation, where they would make a boma, and remain until

relieved by either Emin or Mr. Stanley. These proposals are made by the men, as they say that they can get little or no food here; and must necessarily die of starvation if some such move is not made. On receiving this communication, Stairs, Nelson and myself, held our council, and unanimously agreed that it would be fatal for us to move from here. The men have a fair quantity of bananas for making *ugari* (scalded banana meal, of a thick consistence)—and being well fortified, we can easily hold this place against any attack which the natives are likely to make on it. Besides, the first proposition is simply an impossible one to carry out, as so small a body of men could never reach the lake—they would be *chingered* (throats cut) on the way; also, even if they were fortunate enough to escape all probable difficulties, when they reached the lake, if the white officer said come back, they would certainly say, "No; we go on *à la* Zanzibar;" the natives would appear friendly, and invite them to sit down, eat, and be merry—the Wangwana would forget, and say "All right;" and, after a little, when they least expected and all suspicion had been disarmed, the natives would spear the whole lot. The second proposition is also impossible, as the men would have to make at least four trips for one day's journey forwards, which they would never be able to accomplish; also, there are not sufficient men for two guards, and there is no food between this place and the plains. On the other hand, by remaining here they are sure of being relieved sooner or later—a source of salvation which they might actually miss by migrating to another locality; also, they will have rations of corn available for their use from the 1st of October—the corn already in the bin will furnish them with three heads a day; and the green corn will be fit for cooking by the end of October. Hamis Pari, the Muniapara, says that they want to get the taste of meat, and to have nothing to do but eat meat and other good things on the shore of the Albert Nyanza with Emin Pasha. They are all a discontented, bad lot; but they are also badly treated, as they should certainly have been relieved before now—by His Excellency the Pasha, and Jephson.

SEPT. 6.—It is just two months to-day, since I returned from the Manyuema camp. When the men fell in this morning, Stairs told them that Ali Jumba's proposals were out of the

question; and that they should all stay at the fort till relieved. Wadi Asmani, another Muniapara, agreed, and all the others were silent and seemed to acquiesce, excepting Ali Jumba and Fetteh. The latter said that there was no food ahead of us where a boma could be made so as to allow us to remain till Stanley came up. Ali Jumba then said, "Fetteh, why don't you come forward, as it was you who told me to ask the *mazungu* (white man)." None did, however, come forward in response to Ali's appeal. The mischief-making clique consists of Ali Jumba, Tabebu, Fetteh, Msomgesé and Kasembi.

Nelson has been sick both yesterday and to-day. We are all growing supersensitive here—close quarters in the heart of the dense forest, with scorching sun, impure air, and recurrent attacks of malarial fever are not improving our powers of mutual forbearance.

SEPT. 7.—To-day I strolled a considerable distance into the forest to try and get a shot, as we have no meat of any kind; but I had no luck. After our dinner of Indian meal, gruel and mboga, Nelson, Stairs and myself, sometimes spend the evening talking about mutton chops, steaks and pastry. I believe we are capable of eating *any kind of animal food* just now, and I am sure we will astonish the passengers on board the British India Steamship Navigation Company's steamer when we are returning home.

I have not seen a single *idol* since I entered the forest; the natives in Central Africa do not seem to worship anything in the heavens above, or in the earth beneath, or in the waters under the earth. On one occasion, at Kavalli's—on the day on which I returned from the lake, after starting Jephson off in the boat to find the Pasha—the natives requested me to ask Mr. Stanley to give them rain for their crops; a suggestion which enlisted his immediate attention. On the Congo, I frequently saw wooden figures used as idols.

Last night the men caught a little native girl stealing a fish-basket.

I think I am right in saying that ninety-nine per cent. of our Zanzibaris have had ulcers; and of all these so affected, ninety-nine per cent. have had ulcers below the knee. We white men have had our share too; but the Zanzibaris yield so much more easily to all forms of pathological action—for not only is it that their tissues, from prolonged exposure and

starvation, have lost their resisting power; but the individuals are so apathetic and so fatalistic, that they make no effort to shake off the attack, which they attribute to an unseen agency; and if they make up their minds that they are going to the bad, I hardly think that anything will prevent them.

SEPT. 8.—Nelson is down with fever to-day—temperature 105° F. Every night we sit outside our huts and watch the firmament, as the sky is beautifully bright and star-light. The Southern Cross is always very distinct, and we frequently see Venus between the horns of the moon—making "the crescent and the star."

SEPT. 9.—Mohammed A., the Nubian Shouish (Sergeant), went off to-day for bananas, and has not yet returned. Fadel, the Nubian boy, has gone with him. Nelson's fever is better, but my temperature is 104° F.; somebody is always keeping up the running in this pyrexial show. It might be somewhat endurable if we had good attendants, and an appreciative audience, but we unfortunately have neither the one nor the other.

SEPT. 10.—Mohammed A. and the boy not yet returned. My fever same as yesterday.

SEPT. 11.—Mohammed A. (*vel* Mohammed Zebir) and boy have not yet returned. Ten men armed with rifles were sent out to-day to search for them. It is very easy to lose one's way in the forest, unless the trees are blazed as one goes along. Once lost, getting back again is all a matter of luck, as you cannot see the sun through the dense foliage. If you turn a Zanzibari round on his own vertical axis three or four times in the bush, he ceases to know in what direction he should make for home. I expect that by this time the natives have had a good feed off Mohammed A. and the boy; as all the inhabitants of the bush are cannibals, their "banquet" will not be as good in quantity as quality, I should say; as both missing individuals are poor in flesh.

I wonder what the Aborigines Protection Society would have done under these circumstances? Perhaps, after duly considering the surroundings, they would prefer to remain in their arm-chairs and pass resolutions. I'm quite sure these aborigines are quite as capable of protecting themselves as the members of the Society.

The men returned this afternoon but no Mohammed A.; so

that we suspect all the more that he is at supper with some convocation of political natives—not where he eats but where he is eaten. N.B. I have been reading Hamlet this evening.

SEPT. 13—The men seem to think it a good joke that Mohammed A. has been lost; the natives, they say, will very likely have their last hash of him and the boy to-day; and seem to think it wise of us to strengthen our fortification (which we are carefully doing), as all agree that the natives are likely to try a closer investigation of our premises soon—now that the capture of the Nubians will have given them courage.

We heard the Washenzi yelling and shrieking close to our camp to-day; they did not, however, come in sight.

SEPT. 18.—The men got plenty of unripe bananas both yesterday and the day before. They peeled them, and cut them up into slices; then placed them on a sort of grating ("changer"), with a fire underneath; and kept them turned till they were thoroughly dried and crisped. When this process was completed they pounded them into flour, which they made into a thin porridge; this is what the men call "Ugéé."

On this day twelvemonth we left the Arabs at Ugarrowwa's camp on the Aruwimi, just twenty days' march from Fort Bodo, and here we are still! We have settled down to farm in the centre of Africa! The following is a complete list of the European provisions taken for Mr. Stanley, his servant, Stairs, Nelson, Jephson, and myself. On the march from Yambuya (180 days to the lake) there were six loads of food and one box of brandy—making seven loads.

CONTENTS.

Tea, tins (3 lbs. each)	6
Salt „	4
Butter „	12
Milk „	16
Knives, tin-opener	4
Sugar, tins	4
Jam „	12
Herrings „	2
Vegetables (dried) tin	1
Lard, box	1
Rice, bags	5

Chocolate tins.	2
Cocoa and milk „	4
Sardines „	6
Sausages (Oxford), tins	7
Coffee, tins (5 lbs. each)	10
Biscuits, boxes	5
Tapioca „	3
Sago „	3
Liebig extract, pots	12
Arrowroot, tins	1
Brandy (two bottles each)	12
Flour (1 lb. in each), tins	6

Mr. Stanley took his share with us. The sugar ran to about 450 lumps each; one tin was lost.

SEPT. 19, 20.— . . . .

SEPT. 21.—I had high fever again last night. Heavy rain falls nearly every day from 4.30 till 5.30 P.M. Mr. Stanley is about fourteen days on his return journey; so that if Jephson does not come here soon, our chief will probably be the first to reach us. I do wish that some Saviour would come; I want badly to get a month or two on the plains with Emin Pasha, so as to have a chance of getting up some strength for the march to Zanzibar. The men here are in a wretchedly weak state; three-fourths of the total number are quite unfit for work, and they cannot procure sufficient food to brace them up, as the elephants, the natives, and ourselves have been preying upon the banana crop for several months, and the plant bears fruit but once a year. Yesterday, five men did a foraging expedition, but brought back scarcely enough food to supply them for the day. We have none of us tasted meat of any kind for over a month, and we have no arrowroot —or, indeed, anything but Indian corn or bananas—for cases of sickness (or of health) among us; nor has there been any for over twelve months. I am afraid we shall have to kill the donkeys which the Pasha gave us.

SEPT. 22, 23— . . . .

SEPT. 24.—On this day four months we left the Albert Nyanza on our way back here. If Mr. Stanley returns up to time—in December—and we start on our way to Zanzibar about the 1st of February, we shall just get home (with ordinary luck) for Christmas, 1889. Yesterday my boy caught some small fish; in two of these I found flat worms, like the tape-worms of the human being; three of them were in the intestines of one fish, one in the other. The fishes themselves

were like miniature roaches, but were only half an inch to one inch in length. Both whites and blacks of our party have suffered within the past few months from both tape and round worms (*tænia mediocanellata* and *ascaris lumbricoïdes*). They picked them up on the plains, where they are extremely common. I believe that the infection is due to drinking water into which the excreta of antelopes, and other wild animals, have fallen. It was practically impossible to get them any other way.

The Mahdi men who are with us are constantly getting incapacitated from work by the presence of the guinea-worm in the subcutaneous tissues of their limbs. This annoying parasite develops under the skin, and in time the cutaneous covering ulcerates; a portion then protrudes, and, if not extracted with great care it breaks off and causes extreme irritation, leaving a huge ulcer, which is very difficult to heal.

The irritation has been attributed to the setting free in the surrounding tissues of a multitude of embryonic worms. Curiously enough, it is of the *female* only that anything appears to be known up to the present. The uterus occupies almost the entire length of the cavity of the body; it is always found full of young filariæ, which, at the time of maturity, measure about $\frac{1}{30}$ of an inch in length, by $\frac{1}{1000}$ to $\frac{1}{2000}$ of an inch in breadth; and as these embryos escape by degrees on the rupture of the body cavity of the mother, the amount of irritation which results may be easily explained. It is also, probably, intensified by decomposition of fluids escaping from the severed trunk of the parent.

The mature guinea-worm measures up to four or six feet in length, or even more; and about one-tenth of an inch in thickness; and, as the body is uniformly cylindrical—with a rounded head, and tail curved and abruptly tapering—it forms a very singular cord-like specimen when successfully extracted. If left alone, it always leads to the formation of an abscess, the pointing of which allows the embryo filariæ to escape and pass, if circumstances permit, through a life-history similar to that of their parent. These embryos are born alive, and ready to enter on a career of activity at once.

It taxes a small fresh-water crustacean (*cyclops*) to do duty as its "intermediate host;" and is now known to find its way into the human body by the alimentary canal (with drinking water, &c.), and not as was formerly believed, by penetrating

the skin. It certainly shows a curious selective affinity for the subcutaneous tissue of the lower extremities, which gave rise to the idea that it found its way through the skin of these parts, in individuals who waded in affected waters. The impregnated female finds its way through the various tissues to the skin of the feet and legs; through which the embryos eventually make their exit—to contaminate conveniently the medium occupied by their intermediate host. The filaria requires about a year to develop to its full size; and its escape through the skin—whether discharged pathologically by ulceration, or artificially by extraction — completes its life-history. It has been known from time immemorial as one of the pests of human life, especially in the regions of Africa and Asia which radiate from the Red Sea as centre; and the enemy whose attacks decimated the wandering Jews in the wilderness, and to ward off whose ravages Moses lifted up the brazen serpent, is said by some modern materialistic naturalists to have been no other than the *dracunculus medinensis*. None of our men have suffered from this worm; only those Mahdi people who have come from the Pasha's province have got it, I have never met it amongst the Africans.

Almost every morning some of the men come to me with a bit of toe, or a bit of leg, or a bit of nose, nibbled by rats, which have no fear or scruple of attacking them in this way when asleep. The rats very frequently attack the ulcerated surfaces too, when the sloughing process has set in, and the sensibility has been thereby diminished; and do not leave till they have made regular burrows in the affected part.

The forest is infested with rats, crickets, frogs, lizards and ants of all shapes, colours, and sizes, with wings and without.

The men's latrine is situated at the end of the boma, at some distance from the huts, and is constructed in Arab fashion; a pit about five feet deep, covered over with a hurdle of plaited canes; and these plastered over with a layer of earth at the top, leaving half-a-dozen holes each about a foot square. By this arrangement, flies, which are exceedingly numerous here, are excluded: otherwise they would inevitably be a means of conveying blood-poisoning, by inoculating the ulcerated surfaces from which nearly all are suffering.

The men are each given small gardens for themselves, and presented with seeds of beans, Indian corn, brinjals, and other

vegetables to plant in it. They seem very keen on their gardening, and are all clearing out their plots vigorously, and preparing for their little crops. There are, at least, half-a-dozen of the men here who are extremely debilitated, and will make no attempt at recovery till they get to the open breezes of the plains, and obtain more substantial food. Nearly all the powder of my revolver cartridges has now been expended in attempts to annihilate the itch parasite. There are few deodorants now, except small quantities of carbolic acid and potassium permanganate.

SEPT. 25.—Yesterday, we had the first pumpkins of our own growing. They were very good; but did not, after all, differ very much from the wild pumpkins which grow here in abundance. The plant grows well, and forms a small yellow flower; and the leaf is a little more circular, and of a somewhat lighter colour than that of the wild specimen. We eat these leaves.

To-day, a man voided a specimen of the *ascaris lumbricoïdes*, about a foot in length, of a pinkish colour, and with a long dark streak along the mesial line; also several small ones of the thread variety (*oxyuris vermicularis*), which were twisted up into all shapes and postures. The ascaris is just like those which we had an opportunity of seeing on the plains. I believe that they are all derived from impure drinking-water. They differ from the ascarides at home, in being much pinker in colour: both whites and blacks are affected by them.

I suggested to Stairs that we ought to go on planting the ground which Nelson had cleared around the Fort from the *paulina* (forest), as we may be obliged to remain here months longer than we expect; and will, in that case, not have enough of food for the men without making some such provision. He said, however, that there would be plenty of bananas for them; and, as he is generally right, I withdrew my motion.

SEPT. 26.—Stairs remained in the house all day to-day; Nelson did his duty for him. I gave him eight grains of santonin, as he has been displaying some helminthological symptoms and intermittent fever.

Wherever flies (like the common house-fly of the British Isles) alight on excrete matter, they void one or more white maggots, which immediately commence to wriggle about, and rapidly grow on it.

Last night one of the men had a comatose attack, something like the stupor of the final stage of epilepsy; it was not, however, preceded by convulsions. We all feel the want of exercise very much, as between the hours of 9 A.M. and 5 P.M. it is too hot for any one to go out for voluntary exercise. The inevitable result is that we have "spleens" and "livers" almost every day among us; we are as changeable as the weather-glass: sometimes we arise with the morning light in a most amiable temper, sometimes in a perfectly malignant one. When idle for a few days, one gets quite surly, and our tempers are affected—sometimes for better, probably oftener for worse—by the most trifling current event.

SEPT. 27.— . . . .

SEPT. 28.—We three white people have now had high fever on us for three days; and we are all like bears with sore heads. We almost invariably get fever when the wind is from the west, on account of the swampy nature of the soil in that direction. There is, certainly, nothing so good for the sojourner in Central Africa as to be always on the march: remaining in a standing camp, like that which we now occupy, makes the sanguine phlegmatic; and the lively, melancholic. If one could go for some shooting, or even for a moderate walk daily, it would keep him pretty right, but, situated as we are here, we cannot with safety go 200 yards from our Fort.

Whenever fever appears here, it is always accompanied by a local manifestation—in the shape of some affection of a weak point in the economy of the individual. For instance, my present attack of fever was ushered in by a sudden lameness, acutely affecting my left knee, which became quite hot and painful. It was the first time that I had been so affected; and, at first, I really thought that the case was a local affection of the knee; but the well-known symptoms of fever, which developed with it, soon satisfied me what its nature was. The attraction to this knee was the fact that I have suffered from "Hey's internal derangement of the knee-joint" on this side.

SEPT. 29.— . . . .

SEPT. 30.—The last of September has come and nearly gone, and yet no sign of the arrival of Emin Pasha. My boy is a thorough-bred Zanzibari in his ways: during the last few days he has stolen my only comb and tooth-brush; and wound up, on yesterday, by running away from me. However, I had

MUFTAH ASKING FORGIVENESS.

him arrested in his flight, brought back, and made him an oration. He then, in true Zanzibari fashion, approached with an aspect of the deepest humility, crouched down, and kissed my feet—an abominable habit which these people always practice whenever they want to ingratiate themselves with one.

Both ourselves and the Zanzibaris have beautifully white teeth; I am afraid that the fact is chiefly due to the want of albuminous food (meat, &c.), as, on this account, there is a comparative dearth of sulphuretted hydrogen, so that very little black colouring matter is developed in the vicinity of the teeth. Under such circumstances, there is not much substantial reason to pique ourselves on a small element of personal comeliness, which has, in this case, been purchased at the somewhat high price of chronic starvation. The Zanzibaris use a tooth-brush daily, which they manufacture by cutting, into lengths of about a foot, a forest-shrub which grows here to about the thickness of one's thumb. The stem is of a very fibrous, woody texture; and they teaze it out at one end, so that it acts admirably. The Zanzibaris are certainly very careful to keep their teeth clean. I wish all their personal habits were as worthy of commendation.

Everything is very still at the Fort to-day. All the men, excepting the sentries, are away in search for food. I often wonder, during the quiet hours of thought, how things are going on at home, although not actually suffering from nostalgia.

We tried the first of our water-melons yesterday; but it was far from ripe. Stairs has now just the same kind of anthracoid sore from which Nelson and myself have just recovered. They are small in size, these tumours, but have a relatively large sloughing core. They always leave a depression when they have healed up: this is, of course, a physical necessity, as there is a considerable loss of subcutaneous areolar tissue by sloughing; and the cicatrix, adhering as it inevitably does to the deep fascia, produces a good deal of pitting. They always leave a dark spot.

In two months and eighteen days—*i.e.*, a little before Christmas—Mr. Stanley will be due here. We are now settling down with the hope of his arrival, as we have been so long looking out for Emin Pasha and Jephson, that we do not

think there is much use in expecting anything particular from that quarter any more.

Oct. 1.—Our boys to-day caught a snake, seven feet nine inches long; its circumference at the thickest part was six inches. It was of a slate-blue colour on the back, and a dull yellow along the ventral aspect. It had a small head about one inch in breadth. There were no fangs that I could find. It was covered with glistening scales, and was altogether a graceful specimen of its kind. My little pigmy woman skinned it and cut it up into small pieces; then roasted it in the fire, and has just eaten some of the flesh. It will give her a supply of meat for several days to come. It emitted a very savoury odour during the roasting process; and, had it not looked so repulsive, I would have been strongly tempted to partake of some myself. We have now had no meat for five weeks; the highest attempt at animal food we have reached during this period was an occasional meal of fried locusts; they are caught in great numbers amongst the rice; and, when placed on the frying pan, they give one hop, and a crack, and are cooked.

Oct. 2.—We white men weighed ourselves to-day; our respective weights compared with those of former dates are as follows:—

Date.	Nelson.	Stairs.	Parke.
March 23, 1887 . .	176 lbs.	164 lbs.	162 lbs.
July 6, 1887 . . .	150 „	155 „	154 „
October 2, 1888 . .	140 „	143 „	148 „

So that, since we left the *Madura* we have lost:—Nelson, two-and-a-half stones; Stairs, one-and-a-half stones; Parke, exactly one stone.

Very heavy rain fell from 2 P.M. till 4 P.M. to-day. Last night a fire broke out in Mohammed Ali's hut, but was quickly extinguished. The elephants have again visited our bananas, very much to the detriment of our plantation. This is a very serious matter for us, as the ungainly brutes have it quite in their power to starve us out, and not leave a particle of food in the place. We have arranged that each of us, in

his turn, is to take out a party of men, and light fires here and there in the plantation; as the smell of the fire and smoke appears to be the only thing which effectually deters these marauders from plundering us.

Oct. 3.—The natives rarely use pots to cook their food; although they have utensils which they make of baked clay, and are formed similarly to our ordinary iron pots at home. They merely roll up the piece of meat, fungus, etc., in a banana leaf, and put it in the fire to be roasted. It seems to be an excellent method of cooking fish.

To-day I commenced giving Stairs and Nelson phosphorus, nux vomica, and iron, as a necessary tonic, on account of their great reduction in weight and general debility. I don't take anything myself, as I am a very bad hand at taking medicine; besides, I have lost comparatively little in weight. A great deal of this I owe to the attention of my little pigmy woman, who collects fruits, leaves, roots, parasites, and insects for me, which she knows to be edible; so that I am saved the trouble of gathering, and the exhaustion of being sickened by unwholesome things. Her great difficulty is being unable to conceal these eatables from the ravenous men, who would certainly seize them from her. She wanders off into the forest by day; and generally manages to bring her collection to me, after dark, wrapped in a plantain leaf. Her costume is so limited, poor thing!—although possessed of a great sense of modesty: for she never forgets her belt of rattan cane or vine with an ornamental knot behind. I have already given her a handkerchief; but she is very extravagant.

Oct. 4.—Our boys went off for bananas to-day: they saw several natives thieving in our banana preserves; and, when chased, the latter dropped some arrows in their flight, which my boy Muftah gathered up, and brought me to the camp.

Each day drags along very drearily now; we have come to give up all hopes of help from Emin Pasha and Jephson, and certainly I never before felt so keenly the truth of the saying that "hope deferred maketh the heart sick!" Emin's house is now quite dry and ready: if he would only come in and take possession!

We have discovered that sitting out at night to enjoy the sky and stars here is very unhealthy, so we three whites sit

round our dim fire in the "state room" every evening, somewhat after the manner of the weird sisters in Macbeth, and try to chatter the heavy hours away.

The peas which we planted four days ago have now grown to half an inch above ground. Our corn crop will, I fear, be a very poor one; I think the seed has exhausted itself. The pumpkins are now doing well; although a good many of them became diseased and decayed away, when they had grown to about the size of a teacup.

CHAPTER XIV.

LIFE AT FORT BODO.

No signs of Emin and Jephson's arrival—One of our donkeys killed for food—Ferragi puts cayenne pepper into his eyes in order to avoid work—Sudden death of Msongazi, following a wound by a poisoned arrow—Remarks regarding his wound—My donkey is killed—I am down with fever—Hamis Pari's abscess—The right place to enable one to appreciate the value of home comforts—A splendid soil for bacteria hunting—Lack of European provisions for over twelve months—Misunderstanding between Nelson and Stairs—I change my house—My boy Muftah's salary—Method of catching fish: peculiar worms in the same—Indistinct vision, one of the results of fever—Further plots of the men to get to Lake Albert—Stairs is also laid up with fever—Ingratitude of our Zanzibaris—Summary of the food supplied to Nelson and myself at Ipoto by the Manyuema—Nelson a genuine good-natured fellow—Our experience of the "Dark Continent"—Twenty days of bilious remittent fever—We talk about our position—Stairs a great favourite with the men—Bad marksmanship of the Zanzibaris—Our corn crop—A sixth variety of "potato"—We plant corn in our newly-prepared ground—Nelson's seedy condition—I decide to remove the arrow-head from Stairs' chest.

Oct. 6.—It is now four months to-day, since I arrived here from the Albert Nyanza. Oh, but the time does pass slowly and heavily! The Fort is filled with rats and crickets; which gnaw, and destroy in every way, what rags we have got in the way of clothes. My blanket is like a flour-dredger. This day twelve months we got to Nelson's "starvation camp;" where we left him, with fifty-six men and a large number of loads. This arena of former misery is now but ten days' march from here.

This prolonged residence on a diet so exclusively vegetarian could have been avoided by bringing back Emin Pasha's carriers on returning from the Lake. However, all this was done for the best: and it is always easy to make suggestions on retrospective lines. "For'ard on," with relief to Emin, was always the first incentive prompted by the "too late" disasters on the Nile. And now that we have accomplished our task by handing over thirty-one loads of ammunition (containing 500 rounds each) to Emin—at a cost of the lives of nearly fifty

per cent. of our men, we certainly do think it strange and unaccountable that he has not at least communicated with us in distress.

Oct. 7.—The remaining donkey was unable to get on his legs this morning, from the effects of the twofold plague of hunger and flies. The men cut his throat this evening, and what meat starvation has left on the poor animal's bones will be served out to-morrow among them.

Oct. 8.—The men ate their donkey's meat to-day with savage greediness; the cooking consisted in barely warming it over a fire. I have got the tongue for my share, but am fairly puzzled how to cook it.

Oct. 9.—Yesterday I had the donkey's tongue boiling from 11 A.M. till 5 P.M., but I did not eat any of it, as I had a bad attack of fever, and was obliged to go to bed. But I was better this morning, and had some for breakfast, and a second morsel for luncheon. It was really very good: as palatable as any beef-tongue I have ever tasted. Nelson, who is a great authority on cooking, and a capital judge of eatables generally, says that it was excellent.

One of our Zanzibaris, named Ferragi, came to me this morning complaining of sickness, and exhibiting his eyes as an index of the depressed state of his constitution. These organs were red and watery—in technical phraseology, he was suffering from conjunctivitis (with the usual accompaniments of increased vascularity, pain and tenderness, photophobia, and lachrymation). On examining him closely, however, I found that the reprobate had induced this condition by putting some powdered cayenne pepper into his eyes—this in order that he might be able to take his ease all day in his hut, and not be sent to any kind of work.

My fever has come on this evening again, and I feel very seedy.

Oct. 10, 11.— . . . .

Oct. 12.—This morning, Msongazi, one of our men, went out with a party to cut poles for my bed; their range of excursion did not extend more than half a mile from our camp. They were armed with Remington rifles. At 9.20 A.M., Nelson and myself heard two shots, and thought that they were fired by Stairs, who was on the look-out for elephants. However, it turned out not to be so. At 9.45 A.M., Msongazi

came back to camp, with a punctured wound in the right inframammary region (just below the nipple). The wound was small, and almost perfectly circular; and had evidently been made by a wooden arrow: but the nastiest feature about it was that these wooden arrows are always poisoned. The weapon had penetrated to a depth of about half an inch, but no part of it remained in the wound, which I carefully examined. The opening had been sucked by one of his comrades, both immediately after the receipt of the injury, and on return to camp. (This I had instructed all the men to do whenever one of their companions was wounded with an arrow.) They do not, however, perform the sucking operation well; as they are always greatly frightened by the idea of poison. I touched the whole of the raw surface with nitrate of silver. The man was greatly alarmed about himself; and, accordingly, very nervous and anxious. This was, however, his natural humour: he shrieked, and made a great fuss about himself, when he received a wound on a former occasion (when on the plains). He went into his hut, and said that there was no pain in the wound. He carried his rifle and bandoleer with him, and appeared quite as strong as usual; but he was evidently suffering intensely from suppressed mental emotion, and depressing anxiety about the consequences of his wound. He asked me for some salt, which he fancied would do him good; so I gave it to him. After four minutes, I was sent for to see him; he had been vomiting. Nothing had come from the stomach but a thin watery-looking fluid; but he was terribly agitated, and anxious about his condition. I had him placed at once on his back. When laid down, he immediately rolled round, on to his face, and his breathing became stertorous. The tongue was thrust out, but he did not bite it. The whole body became rigid, the conjunctiva lost sensibility, the pulse became imperceptible, and the respiratory movements were represented by an occasional inspiratory gasp. I dashed cold water on him, and clapped his face and hands; but he made no attempt to rally, and he expired about six minutes after I had laid him on his back. He had spoken sensibly and clearly about eight minutes before he died. From the time of the receipt of the wound, an hour and twenty minutes had elapsed. The weight of opinion in this case, naturally, was that the fatal result was due to the action of the poison absorbed; but of

this view I have the strongest doubts. I am more than inclined to believe that a blood-vessel burst within the brain, as the result of his intense mental emotion. His face and breathing indicated such a condition, his agitation was so great as to lead to almost any conceivable change in the cerebral circulation, and his age and physique were such as would point to such a result. He was short, stout, and fat, with a big head, short thick neck, and protuberant abdomen. Under the circumstances, I would have liked greatly to have a post-mortem examination; but the men informed me that his brother was with the rear column, and it would be necessary to obtain his leave. However, I do not think that the existence of this obstacle would have been enough to prevent me, had I not to meet the more potent personal argument of my own bodily temperature, which was at 103° F. I am also well jaundiced—as yellow as a guinea, and felt more like bed than trying to solve an obscure problem in cerebral pathology.

Msongazi was buried this evening.

Oct. 13.—My donkey was killed to-day; it was well—in more senses than one—as the poor animal had been gradually perishing of inanition. Nelson and Stairs have had the kidneys stewed; they boiled the tongue, but I cannot take any of it as my fever is still raging—this is the sixth day. I reject everything I take—well coloured with bile. I am really very seedy now, and have few remedies or stimulants left from the expedition: excepting some medicines, the sight of which I detest. Nelson and Stairs are both very kind to me; they make a sort of gruel by sifting out the husks of the Indian corn, and I try as best I can to prolong a tedious existence on this pabulum.

Stairs issued rations of our corn for the first time to-day—at the rate of ten heads per week to each man.

Oct. 14.—To-day I dressed and sat up for an hour or so—to let the place get an airing, and be thoroughly cleaned and swept out; which could not be done while I lay in bed. I was helped out to the men's quarters, where I opened a large abscess for Hamis Pari. I was not able walk a step by myself; but I thought it better to be brought to him than have him brought to me; for in the latter event, I would never have heard the end of the story of his sufferings—in having to walk fifty yards to have an operation performed

on him. I was carried back to my bed by Nelson and Stairs.

This is certainly the right place to enable one to appreciate the value of home comforts. My boy, Muftah—let a British home-resident imagine such a being if he can—*does everything wrong;* when I tell him, as I always do, to have all water boiled for drinking, he invariably informs me it is boiling vigorously; when I send him to fetch some, he tells me that it has boiled over, or spilt in carrying, or some other way—he always has some such idiotic excuse to give. When my fever is commencing, I am always so much annoyed by him that I feel inclined to punch him. When the fever is over he is immediately forgiven, and is re-established as my factotum.

For the last week my evening temperature has been 104° F. every day; I am still as yellow as a guinea, and the renal secretion contains both bile and blood, which give it a dark claret colour. I have, of course, grown very thin and feeble, and totter when I attempt to stand on my legs. I sometimes wonder whether the pathologists at home have up to the present settled the much-disputed question as to whether all this biliary pigment really pre-exists in the blood—an assertion which I could never bring myself to believe—or, whether it is wholly (or partly) separated in the liver. Also, whether the parasitic body which had been described in the red blood-corpuscles of malarial fever, are the true disintegrators of the latter, and, if so, how they perform this mischievous function; or to what factors in the miasmatic atmosphere they themselves owe their origin. When I left the lands of science and civilisation they were discussing these questions vigorously; if I ever get home, I think I will suggest to the scientific institutions the desirability of planting one or more scientific pathologists in the heart of Africa. They ought to bear good fruit; it is certainly a splendid soil for bacteria-hunting.

Oct. 15.—I was up during the greater part of the day to-day; but felt very weak, and had no appetite. I took a little nourishment, consisting of a watery gruel, made from Indian-corn meal. I am of a greeny-yellowy colour, not of a precisely æsthetic tinge. I have a terrible gastric craving for fish, or bacon and eggs: not much chance of my having this appetite indulged! Nelson and Stairs partook to-day of a

luncheon made of the leaves, flowers, and fruit of the pumpkin —all mashed up together. We have now been for over a year without tea, coffee, or any European viands of any kind to partake of—a subject on which I feel somewhat bitterly in my present condition.

I am filling up my time by reading Shakespeare and Allibone's Quotations. The former, with the Bible, and Whittaker's large edition, are the best books for Africa when transport is limited.

Oct. 16.—I felt better this morning; rose early, and saw all the sick. There are but twelve on the invalid list now; this is a decided improvement, as there were twenty-five a couple of months ago. Since Mr. Stanley set off to recover the rear-column, we have had seven deaths; another is just going now. I feel far from well myself, but am improving a good deal; the incessant vomiting has ceased, and the jaundice is certainly diminishing.

Nelson this morning accused Stairs of giving our onions to the men: he acknowledged having given two. This was certainly a good opportunity for repartee, not merely from its aspect as a question of courtesy, but as it indicated a want of tact. Stairs should have asked Nelson and myself, as we have, goodness knows, few enough of these dainties to comfort ourselves with. These misunderstandings always indicate *an approaching attack of fever.* No three men could possibly have been greater friends than we otherwise have been all through.

Oct. 17.—My fever still burns, although not so high. My temperature runs up every afternoon, and never falls to the normal, even during the night. I am glad to say, however, that the amount of illness among the men is decreasing pretty rapidly. It is now four months (yesterday) since Mr. Stanley left us here. My pigmy woman ate four snake's eggs to-day.

The elephants have been very mischievous during the past few days; breaking down trees, and eating the fruit in our banana plantations. Accordingly, the men went scouting, both yesterday and to-day—to light large fires here and there in the banana plantations.

I changed my quarters yesterday—from the old, damp, low, draughty house which I had been occupying, to the new one which was built for Emin Pasha. The latter is certainly

much more sanitary in size, structure, and position: still I have already discovered that it admits the rain through *five* independent orifices.

Oct. 18.—Twelve months exactly have now elapsed since we first got to the Manyuema camp—about eight days from here; and, ever since, with the exception of a few weeks on the plain, we have been farming and fasting in the forest. Stairs went out to-day with a few men, and made some fires to frighten the elephants away from our bananas; he saw a few of them hovering about.

My temperature is down to 101·4° F. to-day; but this is still far enough from health; and I am not able to walk more than a couple of hundred yards at a stretch.

There has been a great deal of rain during the night. My boy, Muftah, who is slave to Mohammed Ben Said of Zanzibar, tells me that when he went to engage with Mr. Mackenzie (agent for the Expedition), he received—in company with all the porters—five months' pay in advance. This amounted to £5, and he was obliged to hand this sum, with the exception of six rupees, over to his master before leaving. I have also been informed that the Sultan of Zanzibar made an order to the effect that, of all the money earned by the slave, half is to be retained by the latter, the other half made over to the owner.

Oct. 19.—This morning I found two worms in a small fish; they were each eight inches in length, white in colour, of a somewhat glistening, silky appearance, and furnished with minute ringlets on the surface. There was no attempt at segmentation of the body; the head was bulbous, and furnished with a small projecting snout. The form of the trunk was flattened, and it tapered slightly towards the caudal extremity. It was rather lively in its movements, exhibiting considerable power of expansion and contraction. After removal from the intestine of the fish, each worm lived for two hours, and was constantly raising its head to a line perpendicular to that of the body.

Our boys catch their fish in a cone-shaped basket—somewhat like a lobster-basket, in which some corn, or other food, has been placed to serve as a bait. When once in they are unable to find their way out.

Oct. 20— . . . .

Oct. 21.—On Friday (the day before yesterday) I had fever as usual, the period of highest temperature being the interval between 1 and 6 P.M. There was then a remission, which was followed by a similar paroxysm at 8 P.M. Yesterday I had a corresponding attack of the fever at 1 P.M., but the second paroxysm did not occur. To-day I feel greatly weakened by these incessant onsets of pyrexia; I take thirty grains of quinine, morning and evening, when the temperature is low; but I expect that I will not be able to shake off this fever till I get some strengthening food, and here we have nothing but herbs and Indian corn.

During the last few days I have observed that vision is indistinct in my left eye—everything looks hazy, with a confusedly indistinct appearance. I think I must have burst a small blood-vessel during the straining of the stomach. This morning, when I asked my boy for a change of dry clothes—as mine were drenched with perspiration—he gave me others which were simply dripping; the latter he had put carefully by in a bag, where they had been soaked with rain, and had never dried them, or attempted to.

The men are again plotting together how they are to get to the lake. There are only twenty strong individuals among them. The rest are all debilitated from ulcers, with anæmia and palpitation, to a greater or less degree. If they were all in vigorous condition, they certainly would start off at once to the Albert Nyanza; and leave us whites here to do what we could with our loads. Such is the reliability of the Zanzibari character.

Oct. 22, 23.—. . . .

Oct. 24.—I have not been able to write anything for the last couple of days, I have been so weakened by my fever. It comes on every day, about eleven or twelve o'clock (noon), with a temperature of 103° F., which continues till about 1 P.M., when it falls to the normal level. There seems to be no ending to this fever; quinine has, apparently, no antidotal power; and I am fairly burnt up by the combustion that is going on within me. The result is that I am as pale as a sheet, from hæmaturia; giddy, from anæmia and debility; and unable to walk more than a hundred yards without resting. It is now the sixteenth day of this fever.

Stairs has had an attack of fever which lasted two days.

I examined his side yesterday, and succeeded in catching hold of the arrow head; which is firmly lodged, so that it cannot be removed without a good deal of cutting. This cannot be done without using an anæsthetic, as he is, naturally, anxious and jumpy when I fiddle with the wound, so I told him that when I grow a little stronger I will do this, and operate: I first suggested the local use of cocaine, but he prefers chloroform. Nelson sees my sick every day for me; yesterday, I proceeded to see them myself, but had to give up the work, as I was too sick and weak. It is bad enough to be in such a condition anywhere; but here it is positively cruel to be unable to do anything amid such surroundings: I having for my attendants a Zanzibari boy (about fourteen years of age), and my little pigmy, who really deserves the "Royal Red Cross," as she is a most excellent nurse. I am obliged to get Stairs' boy—another barbarian of about twelve or fourteen years old, to cook my corn and herbs—the only nourishment we can procure. As an example of the ingratitude of these Zanzibaris (who are really a mongrel race) I may record the fact that, although I have attended them all through as carefully as I could, and have, up to the present, given medicine daily to about twenty of the men here, there are only two who have had the kindness to ask me how I felt during these sixteen days of illness. If Jephson is in any way the cause of the delay in coming to rescue us, and bring us to the lake, he is certainly very much to blame; for he knows from experience that the white man cannot complete an average existence of more than about six months on herbs and mohindi. Also, a serious difficulty is that the men are full of the idea of going to the lake, as Mr. Stanley had informed them of Emin's promises. Accordingly, *they are quite ready and willing to desert us at any time*, and the only piece of (questionable) good fortune that prevents them from dashing off and leaving us white men to ourselves, is that so many of them are invalided by their ulcers, that the tolerably healthy ones are not in sufficient force to fight their way. My usual time for breakfast, when I am able to physically persuade the boy, is 7.30 A.M.; to-day, not being able to perform this essential operation, I had my breakfast served up at 11 A.M.

The following list of provisions exhibits all that was supplied to Nelson, myself, and three servants, during the period of

eighty-five days—between the 3rd of November 1887, and the 26th of January, 1888—which we spent at Ipoto:—

Cups of meal	37
Heads of corn	178
Fowls	4
Cups of rice	22
Fish (small)	4
Cups of beans	9½
„ corn (half pounded)	2½
Goat	1

In addition to the above, we twice received a small quantity of cooked meat and rice; and, on two other occasions, a little curry powder and salt.

From the under chiefs, to whom we gave presents, we received:

Fowls	4
Heads of corns	70
Cups of meal	6
Honey	One-half a cup
Meat	Half a shoulder-blade of goat
Noussoir (pounded ants)	One cup-full

Accordingly, the total number of cupsfull received was 111—including meal, rice, beans, shelled-corn, &c.—which represents one and one-third cups per diem to be distributed between Nelson, myself, and our three boys, during the whole of the time that we were at Ipoto. Before Nelson arrived at Ipoto, Ismailia had given me little or no food; he gave me one dead goat, which Mr. Stanley afterwards told me was diseased, and had died. They cut its throat after death, and then brought it to me as a generous present. It was devoured at one sitting—by myself and thirty sick men. We hardly waited to consider the question whether the meat was in a proper condition to function as a good and wholesome article of diet.

Oct. 25, 26.—. . . .

Oct. 27.—During the past couple of days I have not been able to write, but felt more inclined to get Nelson or Stairs to draw up my last will and testament. On yesterday—as usual, at 11 A.M. to the minute, my temperature began to rise, and soon reached 104° F. I felt terribly exhausted, and was hardly able to crawl back to bed from the place where I had been sitting. During the day I took about 90 grains of quinine; I had taken still more on the previous day. I have now given up quinine altogether, and taken to arsenic.

Nelson really is a genuine, good-natured fellow—one of the kindest I have ever met. He boiled up a number of small fish with some onions for me to-day, and made me some excellent soup therefrom—the best I have had for a very long time indeed: I had almost said for ages, *time does pass so slowly now!* I have taken a great dislike to my usual source of nutriment, *i.e.*, pasturing on corns and herbs: our Irish pigs at home would have turned up their noses against it long ago. We have had no meat now for two months (dating from to-day) excepting two donkey's tongues and a couple of kidneys, which were distributed among three of us. From what we have seen of Africa on this Expedition, it appears to offer nothing but fatigue, famine, and farming; the only scope which the "Dark Continent" appears to present to aspiring ambition is for the special professions of ivory hunter, missionary, tradesman, and agriculturist.

On this day twelvemonth Mr. Stanley left the Manyuema camp—about eight or ten days' march from here—to proceed to the Albert Nyanza and find Emin Pasha. What a waste of time since then!—and all owing to the Pasha's not steaming down to meet us at the south end of the lake, although he knew we were coming, and we arrived at the appointed rendezvous a day before our time.

My fever is diminishing, I take six *tabloids* of arsenic daily ($\frac{1}{30}$ of a grain in each), and my temperature has not gone above 100° F. since I took to this medicine: last night I took some calomel and podophyllin.

Oct. 28.—My temperature is normal to-day, but I feel very weak and exhausted: I took four arsenical tabloids at 9 P.M. to-night. The sentries heard some disturbance going on in our cornfield last night, and fired several shots in among the corn. They said that they thought the noise was made by some natives who had come thieving; but there were no tracks of human beings found, on searching in the morning. Stairs told me that there were foot-prints something like those of the buffalo. The rains are diminishing. My mind is continually wandering to the subject of good dinners, &c., &c. We three white men gather together every evening after dark in my house to have a general chat; but before five minutes have passed, food is sure to have formed the central topic of conversation. I will take up another "Relief" like this "when

the pigs begin to fly": it is by far the most severe and heart-breaking time I have ever spent. I often try to compare it with the Gordon Relief Expedition up the Nile; but there is no comparison, only an indefinite analogy.

Oct. 29.—I am again free from fever to-day; so I hope to have no return of it for some time. I have now had bilious remittent hæmaturic fever—a most dangerous form of malarial fever—for twenty days in succession. For fifteen days of these twenty, my temperature at 5 P.M. has always been over 104° F. I am now dosing myself with quinine, strychnine, and arsenic, from which I expect to derive a good deal of benefit, as my fever has disappeared at last.

Oct. 30.—I am still free from fever, but remain as limp as possible. If I walk a hundred yards I am ready to fall on all fours from exhaustion, and break out into a profuse perspiration. Last night we had a talk about our position; and we all three agreed in strongly condemning Jephson and the Pasha for their delay in not coming to relieve us. If he or Mr. Stanley do not come to relieve us before a couple of months, they will certainly have to carry a couple or three of us white men away with them, even if we are able to hold on to life till then.

Some men were sent out after natives to-day; they fired a few shots; but, as usual, hurt nobody. We are convinced that something strange must have occurred in the Pasha's Province, or else Jephson would surely have come to us.

Oct. 31.—To-day we have employed a new cook, Hassani, an old patient of mine, who is hardly able to walk. Our former cook was a savage native, who could never get rid of the idea that warming vegetables was quite as good as boiling them. Muftah and the little pigmy look after me alone. We do not care about having another man, as most of them have ulcers; also from the consideration that Stairs is always dreaming and worrying himself with the idea that we have seven men or so working for us; he alone being able to reckon up the number. He is a most enthusiastic farmer, is a great favourite with the men, and there is no better commandant. He gets up to visit the sentries at least twice every night.

Nov. 1.—The corn has been picked to-day. It was ripe about a week ago; it is a very bad crop, the weather has been very wet, and the heads had dropped. Nine men went out on

ruga-ruga to-day; they fired eight shots at an elephant with the usual Zanzibari result; much blood—which no one could see except the parties chiefly concerned. One man confidently asserted that he had hit the *tumbo* (belly) of the animal. If an elephant were as big as the largest haystack ever made, and all the Zanzibaris were allowed to fire at it from a distance of 200 yards, I would bet my last pyjamas that not one of them would hit it: (N.B.) it must be remembered that this garment is quite unserviceable.

My boy caught eleven small fish to-day—each from half to one inch in length. They form a very good kitawayo (condiment); with forest fruits and scalded Indian meal.

Nov. 2.—The corn has all been picked off the large field—about four acres in extent. The crop, however, has been but a poor one, on account of the great hail storm; and we have gathered but seventy baskets, of 100 heads each. This quantity, although it represents but a wretched result of our labour, it is well to have taken in; for the natives might come at any time, on one of their usual prowling expeditions, and take it all away.

I have made an ivory handle for my knife (of hippo tusk); the old kitchen bone handle had dropped off for want of use.

Nov. 3.—Nine men went out scouting to-day—to warn off elephants and natives. Our farm is being hoed up again, to prepare it for another crop of corn. Wherever a tree has been burnt, and the potash salts remain in the ground, the corn or beans won't take. The corn is a four-months' crop here; the beans a two and a half months'.

My pigmy woman brought me this morning another sort of root to eat; it is new to me, and tastes more like potato than anything else. This is the *sixth variety of potato* I have been introduced to during my sojourn in the forest.

Twelve months ago, by this day, Nelson arrived at Ipoto from his starvation camp—a bag of bones covered by ulcerated skin—after his twenty-three days of almost absolute privation of food: weighing about 130 lbs.

Nov. 4.—The men are off on a banana-hunt to-day; a few went to catch fish in a river about eight miles from here. They usually get about eight fish per man, varying from one to four inches in length. My boy Muftah has fever to-day; and, like all sick negroes, thinks he is going to die.

Nov. 5.—Guy Fawkes day! We are the Guys on the present occasion. Muftah's fever continues; his temperature was 104° this afternoon.

Nov. 6, 7.—. . . .

Nov. 8.—The men are planting corn to-day in the newly-prepared ground, from which the old corn had been taken up. Three grains are planted at the angles of an equilateral triangle—so ∴, and this is repeated at intervals of two feet. In our former crop, all three grains were set in a single hole; but a tornado easily blows the stalk over, as it has but a slight hold on so small a base. The three separated, as above, will give better and firmer grip on the soil. This is Stairs' idea—it is mathematical; and, I hope, accurate.

Nelson is looking very seedy—from repeated attacks of fever. He is now reduced to 136 lbs. in weight; four lbs. less than when we weighed last month. When leaving England, he weighed 176 lbs.

The fates seem to be opposed to our getting any meat, of any kind whatever—to-day I missed three shots at a monkey. Stairs does not require it so much as his *confrères*, for he has a digestion like that of an ostrich. There were very heavy rains yesterday. Muftah has scalded his foot with boiling water, and is perfectly useless to me.

I had a talk with Stairs this afternoon on the subject of his wound, and we decided that he is to be put under the influence of chloroform on Sunday next (11th inst.), and that I am to cut down and remove the arrow-head, which has now been imbedded in his chest-wall for a period of fourteen months. Nelson, who is a clever assistant, will administer the chloroform; my pigmy woman will be close at hand, with the bandages and dressings:—and, if any resuscitating agent, such as ammonia, be required, she can emit a modified form at the shortest notice. This perfume is a peculiar speciality of hers: she can wade in the deepest rivers without effect; whenever the rain comes, I invariably get her to stand opposite my front door and wash for ten minutes, but it still remains as before.

Nov. 9.— . . . .

CHAPTER XV.

LIFE AT FORT BODO.

Successful operation on Lieutenant Stairs—Removal of the arrow-head—Rochard's division of wounds complicated by the introduction of toxic substances—Poisoned wounds one of the terrors of warfare—The efficacy of vegetable arrow-poisons questioned by some of the earlier apostles of modern surgery—My experience of arrow-poisons—Native dogs—Jephson's delay unaccountable—Stairs progresses favourably towards recovery—Our process of shaving—Stairs' notes on Mr. Stanley's first arrival at the Lake—Capture of two young crocodiles—Another poor corn crop—We send some 'benevolent' messengers to gather bananas—Distribution of corn among the men—Welcome additions to our larder—I apply pure carbolic acid to the surface of sloughing ulcers—My pigmy woman collects with me the necessary plants for making arrow-poison—Superstition in Africa regarding the construction of a small hut—Approximate ages of the white members, &c., of the Expedition—Process of pounding and preparing our corn—My Monbuttu pigmy mixes a specimen of arrow-poison—I manufacture a gridiron for cooking purposes.

Nov. 10.—This morning I got Stairs into my room, to examine into the condition of his wound. I placed him on the bed, and after careful inspection was able to satisfy myself of the position of the arrow-head. I then made a final effort to get it out without the use of an anæsthetic; Stairs bore the pain with stoic fortitude; and after about ten minutes' manipulation, I succeeded in extracting the long-lodged intruder. It was over an inch in length; the wood was roughened on the surface, but there was not the slightest trace of decomposition, although it had remained imbedded in the flesh for a period of fifteen months—less three days. It had struck the rib in the centre, and was then deflected downwards and inwards, so that it lay in contact with the pleura behind the intercostal muscles. The periosteum has been injured, and there is a slight amount of superficial necrosis, leading to exfoliation of that part of the sub-periosteal layers of the rib; this will necessarily maintain a discharging sinus for some time. I am very glad that the thing has been removed, for Stairs is now relieved of the

anxiety (accompanied by some amount of danger) of having a foreign body of a very unpleasant nature imbedded in his flesh. The uninitiated may be disposed to ask me why I had not removed it earlier: I have never thought, however, that I would have been justified in cutting down upon it in the earlier days, when we were always on the move, for before it had become incapsuled in fibrous tissue, there would have been great danger of damaging the pleura and lung by exploratory incision; and this proceeding I was very loth to risk among our bad hygienic surroundings. Later on, when the early symptoms of irritation had subsided, I was obliged to wait till we had some rest, and my own health enabled me to operate with some confidence in the use of my hands, as there certainly was no definite immediate danger.

WOUNDS complicated by the introduction of toxic substances have been divided by Rochard into three distinct classes:—(1) *Venomous*, in which the pernicious agent is the normal secretion of the special glands of certain animals, and in which the deleterious action is not local, but probably due to the presence of soluble alkaloids—ptomaines or leucomaines—which are rapidly absorbed into the circulation, and of which the molecular structure has not yet been definitely ascertained. The more important of these are, of course, the bites of venomous serpents. (2) *Virulent*, in which the pernicious agent is a *virus*—the product of an animal organism in a state of disease; and which is, when absorbed, capable of reproduction to an indefinite degree in the blood and tissues of the creature inoculated. Under this head falls the innoculation of small-pox, farcy, glanders, charbon, dissecting wound, &c. (3) *Poisoned*, in which the toxic substance introduced is capable, although not gifted with powers of self-multiplication, of causing deadly results; some of which may be due to absorption by the venous circulation, by which the system is more rapidly affected, and others to absorption by the lymphatics, by which it is deposited in the neighbouring lymphatic glands—where it may cause local mischief only, or from which it may be passed, more or less rapidly, into the general circulation.

The absorption of all toxic substances is necessarily in direct proportion to the rapidity of the circulation at the situation into which it has been introduced; when absorption

has taken place, nature's efforts at cure can be directed only to the elimination of the poison by the organs of excretion. Judicious aid may sometimes be effective in aiding the attempts of nature in this direction. Claude Bernard has demonstrated that by applying effective circular compression to a limb above the seat of a poisoned wound, which was afterwards relaxed, little by little, at intervals of sufficient length, the toxic agent was able to pass into the circulation by degrees, and be eliminated by the emunctory organs, without danger to life: although the quantity of poison introduced was sufficiently great to have rapidly destroyed life without the adoption of this precaution.

From the days of classic antiquity, the occurrence of poisoned wounds has been recognised as one of the terrors of warfare. Pliny tells us that the ancient Gauls dipped the points of their arrows in the juice of the black hellebore, so as to insure the infliction of a mortal wound. Strabo informs his readers that the juices of a variety of yew were utilized for the same purpose. In ages more recent, Hartmann reported the use of various species of Euphorbia by aboriginal Africans in the same way; Ferreira de Lemos called the attention of the world to the employment of curara; other travellers found that some of the inhabitants of South America utilized extracts obtained from certain plants of the strychnine family. The natives of the Banks Islands (South Pacific) use extracts of two plants to poison their arrow-heads with; one, *toe*, is a member of the Euphorbia family; the other, *loké*, is probably one of the nux vomica group. The arrows are sometimes dipped separately in these extracts; sometimes in a mixture of both.

The efficacy of such vegetable arrow-poisons, although received with implicit faith by the ancients, was sharply questioned by some of the earlier apostles of modern surgery. Ambrose Paré denied that there was any proof of the effective use of poison for such purposes; Heister, who examined the evidence at more length, attributed all the symptoms which had been described as due to the nature of the wound itself, independent of other deleterious agents. Rochard absolutely refused to admit that the arrow-heads used by savages had ever been proved to have any toxic agency. Mendam (in 1595), and Burney and Carteret (in 1767), who had special opportunities of making themselves acquainted with these

savage weapons, expressed their doubts as to the efficacy of the poisonous properties attributed to them. Forster and, more recently, Halford, had investigated the subject experimentally, and had failed to satisfy themselves of the existence of a poison. At Gaboon, however, Polaillon and Carville investigated the properties of the inspissated juices of certain plants which were said to be employed by the natives to poison their arrows; and found that the introduction of them into the circulation of the lower animals had the effect of destroying muscular contractility, and causing death by cardiac paralysis. On the other hand, the nature of the poison used in a similar way by the inhabitants of New Caledonia was carefully investigated by a committee of four persons, who took an active interest in the native customs; these were Drs. Brassac and Michel, M. Campana, a druggist, and the missionary, M. Montrausier. After prolonged and repeated experiments, these investigators were unable to satisfy themselves of a definite toxic action. The animals which they had wounded with poisoned arrow-heads, inoculated, &c., all died of *tetanus* at intervals of six to twenty-six days from the receipt of the injury.

Accordingly, the evidence so far collected on the subject must be admitted to be very inconclusive. I have taken a great interest in this subject since my earliest acquaintance with native African life; and have, from time to time, expended some pains in ascertaining any reliable information on this interesting question, but hitherto without definite result. I hope that I have now, at last, a fair chance of collecting more reliable data; I will certainly utilise my opportunities during the remainder of my stay here to try and ascertain some facts in connection with this subject. The results, if any, will be useful to some one hereafter; the inquiry will help to relieve the tedium of my own existence here.

Nov. 11.—Stairs' temperature is normal to-day. I have syringed out the wound, which is discharging a little. There is a great deal of puckering around the margins, and the central opening is deeply depressed. Adhesions have formed, leaving the edges of the wound immovably connected with the rib. The lung had never been punctured; the air has always entered it freely; all other parts are healthy, excepting the small portion of the rib, which has been denuded of

its periosteum. I placed a pad over the wound, and bandaged the arm closely to the side, and have no doubt that all will be well in a short time.

The peas, beans, and all other climbing plants, which we have been cultivating here, grow in the same way—viz., from right to left, like the hops in Kent. We have experimented by trailing some of them from left to right, but they will not grow in that direction.

Nov. 12.—Stairs' dog, a native cur of the pariah type, has been actually caught in the act of eating the heads of Indian corn which are standing in the field.

All the native dogs which I have seen in the forest have ears pointed and erect. I have nowhere, as yet, seen one with drooping ears. The natives of the forest are not fond of domestic pets. The dogs are somewhat like fox-terriers, but very thin and starved-looking, and mostly brown. They evidently do not receive much attention from their native owners. The dogs on the plain are taller, with fine limbs, and somewhat of the greyhound type; most of them have pointed ears, but a few of them carry these organs drooping.

Jephson's unaccountable delay is, I believe, the result of some action of Emin Pasha's men, and the decision of the latter either to detain Emin forcibly, or refuse to come into the forest with Jephson to transport our loads. Or, perhaps, Emin is all this time concentrating his followers and men, who are coming out to the coast, and building a fort or stronghold of some kind on the shores of the lake, so as to be safe from Kabba Rega, King of Unyoro, and to be ready to start when Mr. Stanley arrives.

Stairs is doing well; no complication or bad symptoms have followed the removal of the arrow-head. Nelson is very seedy from his fever. We are to have bean-soup to-night. This is our second crop of beans; we make the soup by pounding the beans in a wooden mortar with an ivory pounder, and then boiling them again with a large quantity of water.

I feel myself like a convict here, in more ways than one. In the first place, I am isolated and starved; in the second place, my hair has been cropped down to the skin by my boy, who officiates as my barber; so I look almost bald. Both Nelson and Stairs have their heads shaved at regular intervals,

as the hair is a little thin on the vertex, and they want it to grow more thickly. The shaving process is carried out by the use of an iron arrow-head, the edge of which has been well sharpened.

Stairs read to me this morning the notes which he had taken while at the Lake. On Mr. Stanley's first arrival there (in December last), both Stairs and Jephson suggested either to march up the western margin for some days, or to go in a canoe; this would have just brought them to Emin Pasha's most southerly station at Mswa (provided the Expedition was not annihilated *en route*), and they would have found him there, and saved several months of time. But as the native tribes a-head were warlike, and inclined to be hostile, Mr. Stanley determined to retreat, with his small force, to the forest for the boat and a reinforcement of men, no canoe being discoverable on the lake. He did return to the forest and brought up the boat. He simply went to the lake; and, when within communicating distance of Emin, retreated without having heard anything of him: the unaccountable fact of Emin's having never come down in his steamer to the south end of the lake, either to meet us, or for any other purpose, was enough to make our leader very cautious in his movements.

Our men caught two young crocodiles in their fish-baskets to-day; they were each eighteen inches in length, and had some small fish in their stomachs. The stream in which they were caught is but a couple of feet in depth (except when swollen out with rains), and a couple of yards wide.

Nov. 13.—Nelson has decided not to cut his tent; but fears that Mr. Stanley will put another man in with him, on his return, although the tent is not a large one. The rains are diminishing, and the days are becoming very hot.

Nov. 14.— . . . .

Nov. 15.—The gathering in of our corn crop was completed to-day. It is but a poor one; about five acres had been planted, and the total yield was about four tons, which gives but twenty-nine and a half bushels to the acre (60 lbs. = 1 bushel). We calculated that our first crop on this farm yielded sixty-five bushels to the acre. This last crop had, however, been wrecked by that terrible hailstorm. The planting of the large field will be finished to-morrow.

Some elephants came up to within 200 yards of the Fort

last night; they tore up some banana trees, and then went off again. Nelson sends out two men every week for bananas; they are always told to try and get a few good bananas for the white men; but they invariably return to say that there are no good bananas to be found. On their return to-day Stairs saw them hide something at a short distance outside the Fort. As usual, they explained on returning that there were no good bananas to be got anywhere; Stairs then went out at once to see what it was that they had hidden, and found some very good bananas—they had brought us in wretchedly small ones! These benevolent messengers readily forget their duty to the white man, when the white man forgets to take care of himself.

The temperature was 90° in the shade to-day; still it is very damp, owing to the enormous profusion of vegetable growth.

Nov. 16.—It is now exactly five months to-day, since Mr. Stanley started westward for the recovery of the rear column. He had then calculated that, after returning here, he would arrive at the lake on the 2nd of January, 1889. By to-morrow week, it will be exactly six months since I left the Albert Nyanza with Mr. Stanley. As our friends, Jephson and the Pasha, then hoped to be able to arrive here for ourselves and our loads in three or four months, the delay is uncomfortable, and furnishes a bad omen for the future. A question arose this morning about the corn, which was to be *twanga'd* (powdered into flour) for our use. Lately we have been using corn which was filled with weevils. Nelson objected to this now, as he said that this damaged corn could not be sold at the Cape, even for ostrich food. Stairs was of opinion that it was good meal. However, we held a "shauri," and it was decided to prepare meal from good new corn, which is, of course, cleaner and better.

Stairs' wound has almost healed; and he is able to move about, and do his work with his wonted energy. He calculated to-day that we have now twenty heads of corn per day for 50 men for three and a half months; also, that there will be a "reserve" of 14,000 heads of corn, as well as bananas. So that we whites will have a store representing one hundred heads of corn per day for the same time, with a reserve of 9,000 heads.

Nov. 17.—We commenced the distribution of corn to-day, by giving all the men ten heads each for seven days.

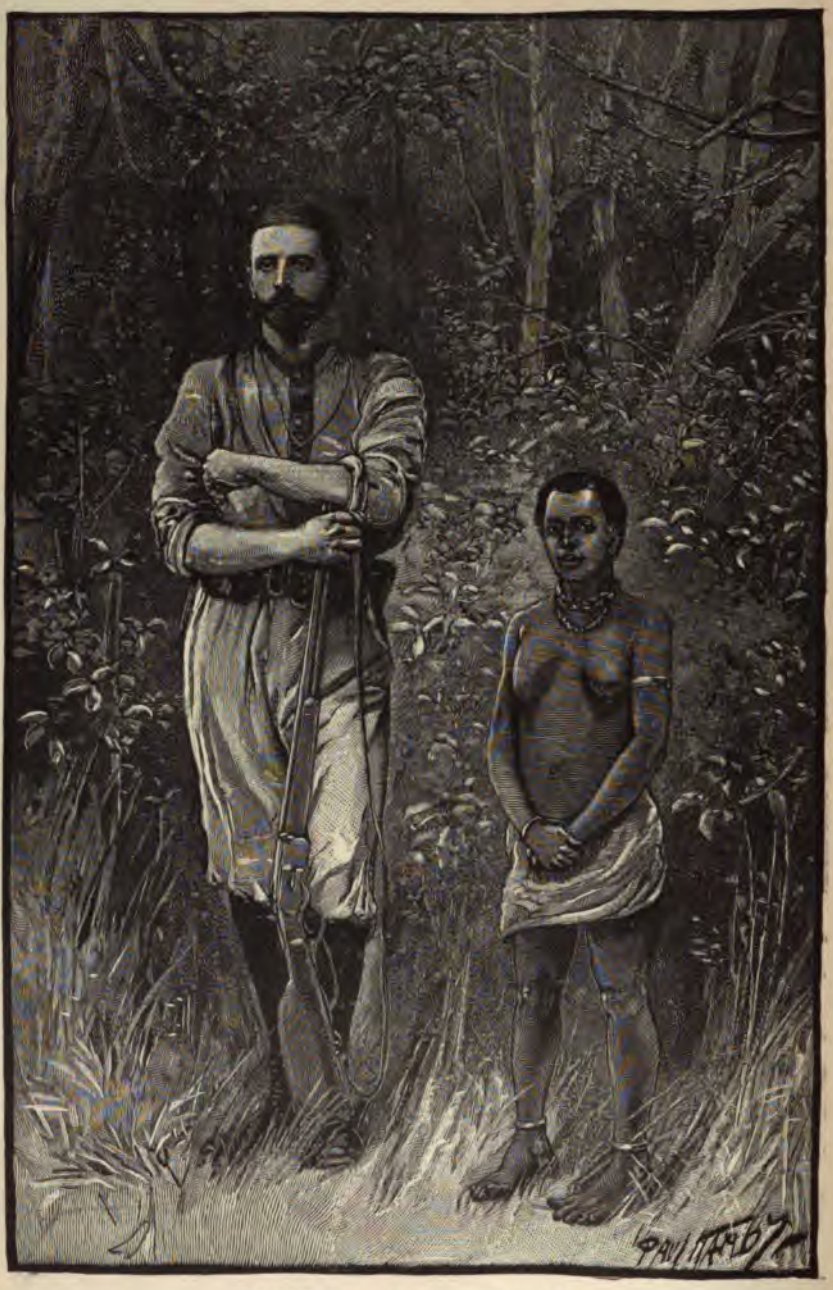
Nov. 18.—I had a shot at a large bird to-day; and missed it. It flew off, but after a short time the sentry came running in to say that it had returned. Stairs had a shot at it then, and succeeded in bringing it down. It was a kind of stork.

Nov. 19.—The planting of the peas was finished this morning. The new peas are now just ripe; I expect that we shall have a plate of them on Sunday. Nelson's boy brought me a crab to-day; about eighty young crabs were concealed beneath the ventral aspect of the shell. These youngsters were all quite lively, and moving their limbs briskly; their eyes staring brightly open. It was evidently a female which was conveying her recently produced young ones around with her. We are to have Stairs' stork for luncheon to-day, which is a great treat to us hungry creatures.

I now treat the sloughing, and very chronic ulcers by directly applying pure carbolic acid to the surface. This gives very little pain, and has the effect of causing them to skin over —in a way that every other application had failed to do. Our former cook, Marzouki, who had been limping about for months with an ulcer on his foot, and had been excused all duty on account of it, has now had this broken surface completely healed up; so that his occupation of idleness, as one of the "Unemployed," has gone. He has, accordingly, been obliged to resume work; and is not at all obliged to me for this new and effectual treatment.

Nov. 20.—This morning I had a shot at some birds, which resembled plover both in appearance and flight. Their cry also resembled that of plover, so that they called up a number of old associations. During last night some natives came within 300 or 400 yards of the Fort, and shouted. My pigmy answered them; they said that they were going off by another path and would not come near. They must have lost their way, and not known they were so near our enclosure. The Wasongora come here from very long distances to procure bananas; and, accordingly, do not know their way very well about the plantation.

Nov. 21.—To-day I got my pigmy woman to come into the forest with me, and gather the barks, herbs, beans, &c., from which the natives prepare the poison for their arrows. We



PARKE AND HIS FAITHFUL PIGMY.

collected four kinds of plants. She is to show me to-morrow how the poison is prepared. I will inject some into the dog and study the effects, which I am most desirous to see. Some of our men died of tetanus after the receipt of wounds inflicted by these weapons. This sequela might have been the result of the injury—considered merely as a punctured wound—but I hardly think that this would satisfactorily explain the large number of tetanus cases, with their unusually high mortality, which followed the action at Avisibba. All the men who had been wounded there—excepting Stairs, whose wound I had carefully sucked—succumbed to the tetanic symptoms which supervened. I also know now that some arrows are merely smeared with squashed chillies, or pounded ants, to enable them to give rise to a certain amount of irritation. The pigmy tells me that if the poison is not fresh it merely causes local swelling and itching around the seat of the wound. She also says that the poison is harmless to swallow, and that the natives always smear it on the arrows with which they kill their game. They eat this game afterwards, and suffer no ill effects from the poison. She tells me that there is an idea that if the natives are frightened while preparing the poison it will be of no use.

Among the superstitions which I have had an opportunity of noticing during the progress of the Expedition, one of the most widely spread is the construction of a small hut, the presence of which is supposed to protect the families of the warriors while the latter are away on one of their plundering or fighting excursions. I have observed it among the tribes on the Congo, in the Manyuema tribe, along the recesses of the forest, and on the plains towards the Albert Nyanza—it seems to prevail almost across Africa. The fetish man, or wizard, of the tribe, builds a small conical grass hut, about two feet in height, with a doorway about large enough to admit a hen. One of them is built close to the door of each of the principal huts in the village, when the heads of the families are going on an expedition, and they are believed to furnish a secure protection against their hostile neighbours. Also they are supposed to act as charms to protect the warriors of the village, while away fighting against the common enemy.

I subjoin the approximate ages of the white members of the

E. P. R. Expedition, and the averages of the ages of the various tribal components, at the date of its starting (early in 1887):—

	Years.		Years.
Stanley	46	Parke	30
Walker	38	Jameson	31
Bonny	43	Jephson	30
Nelson	36	Barttelot	29
Ingham	36	Ward	25
Troup	32	Stairs	25

William . . . . . 21 years.

	Years.
Average age of Europeans	32½
„ Zanzibaris	35
„ Nubians	33
„ Somalis	25

Nov. 22.—Stairs and I carefully measured the meal which we used to-day, so that we may be able to estimate the average consumption of the twenty-four hours. We used each 3¼ cups of dry flour during the day as ugéé (porridge), or ugari (scalded meal); but we are able to consume half a cup extra, which would make 3¾ cups of dry flour. This quantity is equal to 5 cups of wet flour. Naturally our bitter experience of forest life has given us some ideas of prudence and forethought; although, under the present circumstances, it may seem much less required than formerly; living as we now are on our own farm, and with our granary full of corn. Our corn is allowed to soak in water for a night; and, on the following morning is pounded in a large wooden khino (*i.e.* a wooden mortar). It is then sifted again and again, until all the husks have been separated; after which process it is again pounded with ivory pounders. The man who carries out the pounding process receives 150 heads of mohindi (Indian corn), to prepare for each day—this makes 14 or 15 cups of wet flour, which represent about 10 cups of the dry material—so it is less than our ration-allowance, as above calculated. Therefore, we conclude either that 150 heads of corn form too small a ration, or that some is possibly lost (*i.e.* stolen) in some stage of the process of preparation. The latter accident, I know, does occur—at least, on some occasions—as I have found the pounder (*i.e.* the man who pounds) carrying away a good deal of the meal, which he had abstracted by mixing it up with the husks and refuse: besides, his lower jaw is perpetually on the move while pounding.

We generally have a few sweet potatoes and some mboga

(leaves of trees, herbs, and tops of bushes pounded up together) with our repast, in addition to our ration of Indian corn.

Nov. 23.—My Monbuttu (pigmy) woman, has succeeded in preparing a specimen of arrow-poison. I will try its effect on Stairs' dog, which he has generously given for the experiment, in aid of the advancement of science. I wonder at what date the English-speaking world will be instructed by the result? She pounded some large leaves, bark, some (pink, thorny) stem, scrapings of sticks of wood, and four bean kernels —all up together. She then smeared the arrows with the resulting mixture, and placed them to dry in the sun.

Nov. 24.—On this day twelvemonth, Mr. Stanley started from here to the Albert Nyanza for the first time: on this day six months, we left the Lake (concluding our leader's second visit), having at last found the mysterious Emin Pasha. On this day—here we are! still patiently (or impatiently) awaiting the arrival of Jephson and Emin Pasha—or of Mr. Stanley.

I have made a gridiron from the wire splints which I took from the "Field Companion" left at Cape Town. It will be most useful in cooking meat, instead of having to drop the latter in among the cinders to be roasted, or trying to arrange it on a stick like kabobs.

But—— where on earth is the meat??? Echo answers.

The rains are now ceasing.

CHAPTER XVI.

THE ARROW-POISON OF THE PIGMIES.

My first African essay in amateur vivisection—Effect of the arrow-poison on Lieutenant Stairs' dog—Method of burial among the natives—Anniversary of my birthday—Report on the arrow-poison of the pigmies read before the Pharmaceutical Society of Great Britain: Part I. Description of the material; (*a*) The poison; (*b*) Preparation of the poison; (*c*) The antidote. Part II. Identification of the material by E. M. Holmes, F.L.S. —Some of the results of our farming at Fort Bodo tabulated—Mischief by elephants in our banana plantation—Ali Jumba's reply to our cross-examination about the same—Elementary nature of our diet—A native camp discovered in the plantation—Porridge flour made from bananas—We cut down our rice crop—Great quantities of locusts—An elephant's gymnastic feat—Wives of the Wambuttu and Wasongora.

Nov. 24.—This morning, at 9 A.M., Stairs' dog was handed over to me to make my first African essay in amateur vivisection. I made an incision in the skin of the animal's back, about half an inch in length, and pretty deep: I also made scratchings (like those practised in vaccination), over a surface of about a square inch. I then rubbed in the poison. The whole procedure was carried on in presence of my white *confrères*. I have been very anxious to satisfy myself of the effects of the poison: so many of the men having died of tetanus after being wounded, and four having died of hæmorrhage resulting from puncture of important vessels—all these cases left me doubtful as to the *modus operandi* of the mysterious agent. The fatal cases of hæmorrhage might, of course, have followed the punctures inflicted by any such pointed instrument, whether poisoned or not. The succession of cold, chilly nights to excessively hot days, might have proved a sufficient cause to account for the occurrence of so large a number of cases of tetanus among our blacks, who have the reputation of being so much predisposed to the disease: this was made even more probable by the fact that so many men died on the nights of the 18th and 19th; both of which were particularly cold. So that, up to the present, I have had no decisive data.

My dwarf tells me that the poison won't kill by insertion into a superficial wound: the arrow which has been fortified by the poison must penetrate to a depth of two inches. This statement does not make me feel any clearer as to the qualities of the poison, for at that depth it might very often produce mischief enough to cause death without the use of any poison at all.

The sentries heard an elephant moving about in the *chamba* (clearing), last night about twelve o'clock. They fired one shot, after which the animal moved off for a few yards; but did not leave the place until the ivory alarm horn had been blown for about fifteen minutes. The brute could be distinctly heard breaking down branches and feeding, at a distance of two or three hundred yards.

I made another gridiron—for Nelson—from the iron bangles which my pigmy has been wearing as ornaments around her neck. We are all earnestly praying that Providence will soon send us some furniture for our gridirons, in the shape of sound and wholesome meat!

Nov. 25.—One month separating us from Christmas—a bright lookout! Another holiday of starvation. My last Christmas was spent among our benevolent Manyuema friends at Ipoto; the previous one at Alexandria; the one next before that (1885), on the Nile, with the Expedition for the relief of Gordon—so that I have had a choice variety of African holiday experiences.

The dog, which had been the subject of yesterday's experiment, died to-day at 1.45 P.M.—twenty-eight and a quarter hours after the introduction of the poison into his economy. When I made the incision, the animal winced a little; but did not seem to feel any pain while I was rubbing in the poison. I carefully watched his subsequent movements; he was restless for an hour or so; but this seemed to be rather due to the annoyance produced by muzzling him—so as to prevent his licking off the poison. He then composed himself in the usual attitude of dogs lying at ease: placing himself quietly on his belly, with his fore-legs stretched out in front, his head extended and resting between them, and the hind-legs drawn forward under his body. He had not moved about much, and had made no attempt to scratch his wound, or roll on his back, or rub himself against anything. His fore-legs were kept tied, till 4 P.M., so as to prevent his scratching, when

they were unbound by Stairs, who brought him out for a walk. He then seemed to be in low spirits, and unusually drowsy and heavy—indicating a narcotizing influence. He got two toasted heads of corn, which he ate—this was his usual food. He made no noise during the night, and there did not appear to be any definite change in his condition in the morning: he still remained heavy, and showed no inclination for exercise or play. He had plenty of water beside him to drink, if he wanted to. At 1.30 P.M. I found him lying in the position above described, with the tongue partially protruded, and a slight discharge of saliva escaping from the mouth, which was partially open. The pupils were normal, the eyes partially closed, and a mucous secretion between the lids; the head, when raised would fall over if not supported; the respiration was laboured, and a little slower than that of health; the arterial pulsation—easily felt in the femoral artery—indicated strong, but slow, heart's action; he had voided from bladder and intestines; the tail was extended and lax—instead of its normal curl upwards. When removed to a flat surface he lay on his side, and extended his legs. A tremulous movement then appeared in the fore-legs; which soon ceased, and commenced in the hind-legs: this movement, on watching it closely, I found to be a symmetrical jerking, twitching movement of both fore-legs and both hind-legs in turn. The entire limb moved with a jerky contraction—from shoulder to claw: both fore-legs moved together, about every ten seconds; both hind-legs then had their turn; then the legs appeared to move alternately, so that their actions nearly corresponded to those of a trotting horse. There did not seem to be any irregular contractions of independent groups of muscles; there was no tonic contraction, no local hardness or rigidity, and the skin did not feel hotter than in health.

My pigmy said that the dog would die in three days after the infliction of the wound; this is about the time that some of our men lived after being wounded by a poisoned arrow. The amount of poison which I introduced into the wound of this animal was, however, of course, much greater than is likely to be inserted by the puncture of a single poisoned arrow.

The dog did not attempt to drink any water till near the end; and then he did not seem to be able to swallow. The skin never seemed to become hot or moist, the effect of the

poison seemed to be of a purely narcotic character. The fæces which he passed seemed to be quite healthy; they were dark in colour. The body became rigid about two (to two and a half) hours after death. The pigmy tells me that when natives die from the effects of this poison, the eyes are always widely open (as the dog's were): they also evacuate from the bladder and bowels.

She has also informed me that when the natives die, whether from natural causes or from the effects of this poison, they are tied up in a contracted posture, and suspended from the ceiling with the neck, thighs, and legs flexed, so as to give them a position nearly like that of a person reclining on a bed-rest. When cold and stiff, they are carried away to a distance of half a mile from the village; and buried, in the forest, in this partially sitting-up position.

Nov. 26.—The natives use an antidote for this arrow-poison: the Monbuttu tells me it is not taken by the mouth, but is introduced under the skin of the wounded person. It makes the individual sleep; but he occasionally wakes up and groans during the course of this curative slumber. While asleep the eyes are closed. She also asserts that, in order to inflict a fatal wound the arrow must penetrate to a depth of at least two inches. This is because but a small portion of the poison can be made to adhere to the sharpened point and margins of the arrow-head; it sticks much better to the thickened portions, beginning about a quarter of an inch from the tip. If the individual is able to eat and drink, the prognosis is favourable. There is never any sweating. Sometimes the jaws become locked by spasm of the muscles of mastication (*trismus*); when this occurs the man will die in two days.

Nov. 27.—The anniversary of my birthday! I am thirty-one years old to-day. What a year of life the past has been! Our experiences surpass the wildest imaginations of modern romancers: but there is no use in reflecting here.

After some persuasion my pigmy consented to take me into the forest and show me the plants, &c., which she employed to prepare the poison, and also the antidote. This was a very great favour indeed, for it is a strict secret of the tribe.

Owing to the kindness of Mr. E. M. Holmes, F.L.S., the Curator of the museum of the "Pharmaceutical Society of Great Britain," I am able to give the following interesting

report, which was read at an evening meeting of that society on Wednesday, April 8th, 1891.

THE ARROW POISON OF THE PIGMIES.*

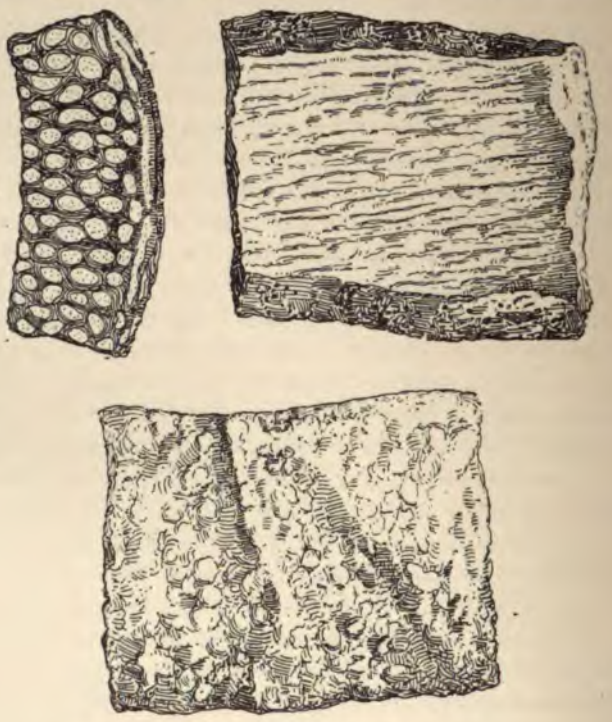
By Surgeon Parke, D.C.L., Army Medical Staff, and
E. M. Holmes, F.L.S.

PART I.—DESCRIPTION OF THE MATERIAL.

By Surgeon Parke.

The Poison.

I.—The arrow poison used by the pigmy race in Central Africa is of a very fatal character. Of all the men wounded by poisoned arrows at the action of Avisibba only one survived, viz., Lieutenant Stairs, and his recovery was



Poison no. 1.—bark.

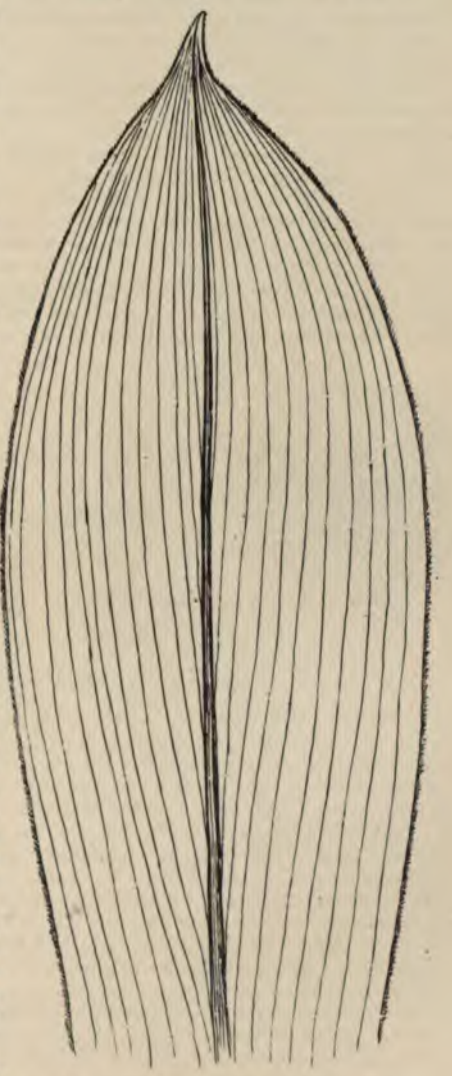
probably due to the fact that the poison was immediately sucked from the wound. It seemed very important, therefore, in the interests of humanity, to ascertain, if possible, the composition of the poison and to learn the nature

* From the Pharmaceutical Journal and Transactions, April 11, 1891, p. 917.

of the antidote used by the pigmies. This I was at length able to do, through the help of my little pigmy woman who followed our caravan. It was, however, a long time before she would show me the plants used, and the method of preparing the poison; and then only on the express condition that no other person should accompany us to the place where the plants grew.

Five plants are employed to make the poison. Of these I have brought home such portions as I was able to procure at the time. They consist of (1) a bark, (2) a large green leaf, (3) a thorny creeper, (4) a green stem, (5) a bean-like seed.

1. *Bark.*—This is obtained from a forest tree which grows to a great height, and is very common in the neighbourhood of Fort Bodo. The trunk grows to several feet in diameter; has no branches low down, but is much branched above. The leaves are compound and pinnate, of a light green colour; the leaflets are small, about half to one inch long, not always opposite, but occasionally alternate, the rachis being about one foot long. The tree had no flowers or fruit on it that I could see. The bark is used fresh; it is of a dark brown colour on the outside, and slightly rough. On the inside it is of a whitish pink colour, and red when broken transversely; it is from $\frac{1}{8}$ to $\frac{1}{2}$ inch in thickness. A piece about two inches square is used, pounded with the other ingredients, to make a cupful of the poison. The Monbuttu name of the tree is Elinda; and the Wasongora name Sooroosooroo. (The word Monbuttu means forest dwarfs, and the name of Wasongora is applied to the larger, and darker, natives who occupy the clearings only in the forest.)



POISON NO. 2.—LARGE GREEN LEAVES.

2. *Large Green Leaves.*—The plant from which these are taken is very common in the forest, all the way from the Congo to where we emerged into daylight at Kavalli's. It is a herbaceous plant, with about eight or ten larg oblong lanceolate leaves; arising direct from the ground, and having at their

base a bundle of small cord-like roots about the thickness of a crowquill. The leaves are usually three or four feet long, and the old ones attain even the length of six feet. The largest are of a dark green colour, and the younger of a lighter shade; the petiole is short and thick, about two inches in diameter, and the midrib is channelled, or grooved longitudinally on its upper surface, and is prominent below, while the slender lateral veins branch off at an acute angle. When handled, the leaf feels like gutta-percha tissue.

The short petiole is pinkish and very juicy, but only the blade of the leaf is used: about two dozen being sufficient for a cupful of the poison.

The flower is very handsome, white, several inches in diameter, very fragrant, and soon fades when gathered. The lower lip of the flower is semicircular, and larger than the upper part.

The Monbuttu names of the plant are Kaukaungee and Binbeedo: the Wasongora names Kaukaungee and Koko.

3. *A Thorny Creeper.*—This is also very common in the forest. It is a creeper which grows twenty, thirty, or even forty yards long, but never exceeds one or two inches in diameter: it climbs up trees; but prefers to creep along the undergrowth, close to the ground. The stem is of a brownish colour, green, softer and more pliable in the younger parts, and, near the apex, pinkish, or of a lighter shade of green. For the last two or three inches the thorns are softer, rudimentary, and resemble small leaves; but on the older stems they

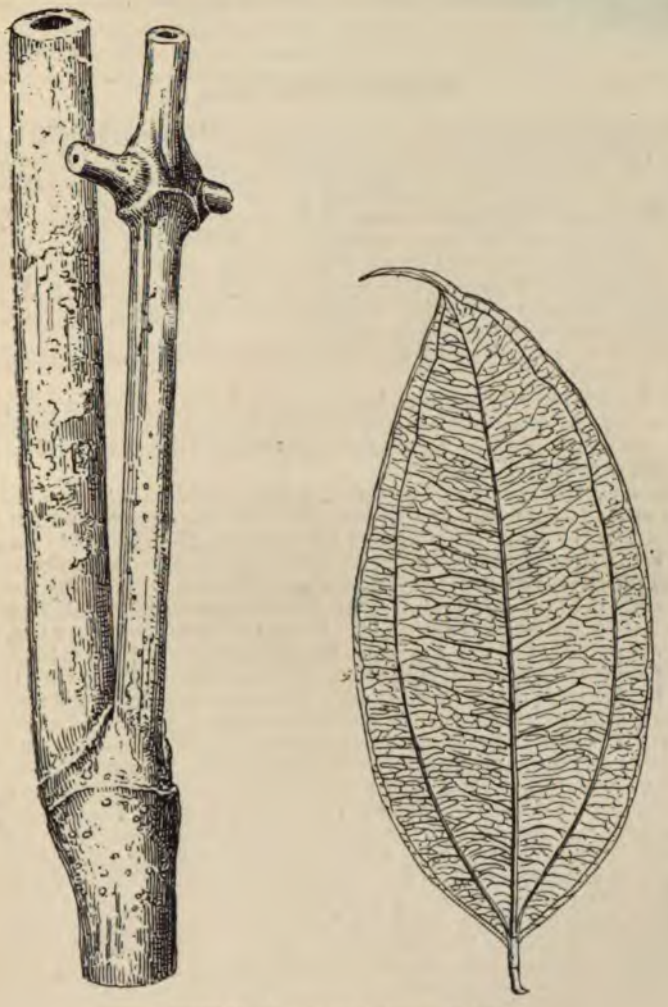
POISON NO. 3.—THORNY CREEPER.

are very sharp and hard. There is such a gradual increase in diameter, that it is hardly noticeable in a length of five yards. When it runs on the surface of the ground it sends down rootlets into the earth.

When old, the bark becomes very thin, and falls off in shreds; the wood becomes brittle. The stem has a well-marked pith. The portion used is that towards the end of the shoot, but not the soft green extremity of it; a piece about one-quarter of an inch in diameter, and three feet long, is sufficient for making a cupful of the poison. The plant had no leaves, flowers, or seeds when I gathered it. The Monbuttu names are Oferuper, Tipoongo, Cuckoo-oo, and Mombuadu-beedu: the Wasongora names are Putooroh and Beeiah.

4. *Green Stem.*—This is obtained from a branching shrub, which is very common in the forest. It grows to a height of ten or twelve feet, and the stem, in the thickest part, is not more than two inches in diameter; it is of a dark green colour in the upper part of the plant. The leaves are dark green on the upper surface, and of a paler tint below; there are three principal veins or orbs; and the lateral veins are given off, at an acute angle, from each of these. The leaf is from three to six, or even eight, inches long; and about half as broad; the large veins being depressed on the upper, and prominent on the lower surface of the leaf. The scrapings of the bark only are used—to the amount of a dessertspoonful in preparing a teacupful of the poison. The plant had neither flowers nor fruit when I saw it.

The Monbuttu names of the tree are Tarfa and Macaboo-oh: the Wasongora name is Soomba.



POISON NO. 4.—GREEN STEM AND LEAF.

POISON NO. 5.—SEEDS.

5. *Seeds.*—These resemble a small bean in appearance. They are of a dark brown colour, and about a quarter of an inch in length; and grow to a

very large tree. About eight would be sufficient for a cupful of the poison: only the yellow kernel being used.

The Monbuttu name is Boongahcah: the Wasongora names are Baymahrub and Exeecu.

Preparation of the Poison.

The large leaves, the bark, the pink thorny stem, and the scrapings of the green stem and four of the small seeds are all pounded together into a paste; which is spread on the head of the arrow and allowed to dry. At first it is of a greenish colour, but becomes paler, and forms a hard crust like clay on drying. The Monbuttu woman said it lost its strength after three or four days. As I was anxious to ascertain if the ingredients really were those used to prepare the poison, Lieutenant Stairs kindly lent me his dog to experiment upon. For a long time I thought that those who died from tetanus died from traumatic tetanus: this poison undoubtedly causes tetanus, but there are different poisons used by different tribes.

Some of the poison prepared as above, on the 23rd of November, 1888, was used on the 24th.

An incision about half an inch long was made in the back of the animal, as well as light scratches over a surface of about one inch square, and the poison was rubbed in—at about 9.30 A.M.—the operation being performed in the presence of Stairs and Nelson.

The Monbuttu woman said at the time, that the poison would not kill the dog: as the poison must be on an arrow, and the arrow must penetrate two inches into the body. However, on the next day (25th) the dog died at 1.45 P.M., twenty-eight hours and a quarter after the introduction of the poison.

Symptoms.—The following symptoms were observed. When the incision was made, the dog flinched a little; but did not appear to suffer pain from the cut on the introduction of the poison. It was restless for an hour or two, but this was probably due to the muzzle. He afterwards lay at his ease like other dogs: his forelegs stretched out in front, with his head resting between them, and his hind legs drawn up under him. He moved very little, and made no attempt to scratch the wound, or roll on his back, or rub against anything. His four legs were tied until 4 P.M., when Stairs brought him out for a walk of 100 yards. He then appeared to be in bad spirits, and unusually drowsy and heavy, as if under the influence of some narcotic. The pupils of the eyes, however, were not affected. He ate two toasted heads of Indian corn (his usual food). During the night he did not make any noise, and there appeared to be no change in his condition; but he still remained heavy, and not inclined for play or exercise. At 1.30 P.M., on the 25th, he was lying in the above position with the tongue partially protruded, and there was a slight discharge of saliva from the mouth which was half open. The pupils were normal; his head would fall over if not supported. He was unable to take any notice, his eyelids being only half open; and a mucous secretion was present between the eyelids. The respiration was laboured, and very slow. The heart's action was healthy, but slow (I felt the femoral artery). Urine and fæces had been expelled; and his tail (naturally curled) was lax, and extended. When removed to a clean, flat surface he lay on his side and extended his legs; a trembling movement was observed in his forelegs, which soon ceased and commenced in his hind legs. The trembling was a symmetrical movement in both forelegs, and in both hindlegs, respectively, the two forelegs moving independently of the hinder ones, and *vice versâ*; the leg moved with a jerk, which extended through the entire limb from shoulder to paw. There was no irregular contraction of independent muscles. The muscles did not become hard, nor did the dog's body feel harder or hotter than usual. The spasmodic jerkings and movements occurred once every ten seconds; and the legs now

moved after the fashion of a horse trotting. The dog would not drink water. It became very rigid and stiff in about two (to two and a half) hours after death.

The Monbuttu woman said that the dog would die in three days, and remarked that when natives die from the poison they always have their eyes open like the dog, and also pass dark-coloured fæces under them. I had the opportunity of observing the action of the poisoned arrows on human beings in the following cases :—

At Avisibba.—Many men were wounded by poisoned arrows on August 14, 1887, and died, of undoubted tetanus, four to six days afterwards.

At Fort Bodo.—A Zanzibari was wounded by a very small puncture from a poisoned arrow at 9.30 A.M. He walked one mile into camp, was very anxious and alarmed, said there was no pain, suddenly vomited some watery fluid, commenced to breathe stertorously, and protruded his tongue; the conjunctiva lost sensitiveness; involuntary evacuation of fæces took place; there was no pulse; and only an occasional gasp, or respiration. He vomited about one hour and twenty minutes after being wounded, and died in about seven minutes after he had vomited.

The Antidote.

The antidote used by the pigmies is prepared from portions of three plants, and is a white powder.

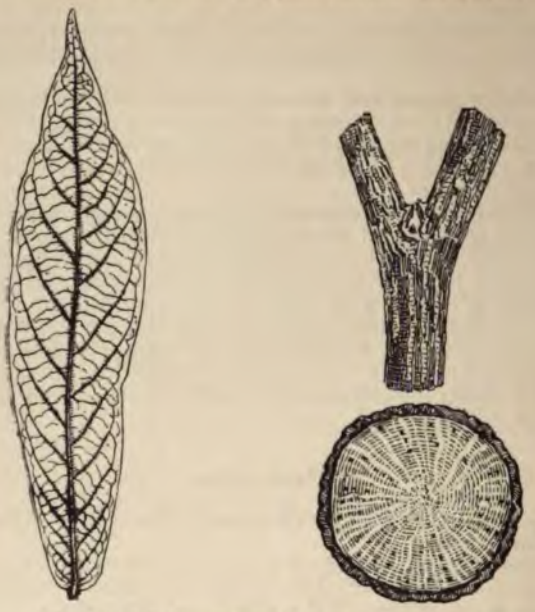
1. *Leaves.*—These are from three or four inches to nearly a foot long, and are about three inches wide in the broadest part, of a yellowish or slightly mauve colour on the upper surface, and of a pale slate colour underneath (glaucous). The plant on which they grow is a bush which rarely exceeds ten or twelve feet in height, and is one of the commonest plants in the forest. The stem is of a dark green colour, rather rough, and rarely exceeds a couple of inches in diameter.

The wood of the stem is tough. The tap root is long and tapering, with very few branches. The extreme top of each branch is of a brown colour and velvety appearance, owing to the number of short brown hairs with which it is covered; there are none of those hairs on the lower part of the branches. Only the light coloured yellowish leaves are used, and the midrib of these is removed. Some trees have no light coloured leaves, and they occur only in the proportion of 1 to 100, or so, when they are found. These yellowish leaves are dried in the sun; and then become browner above, and of a darker slate colour beneath. There were no flowers or fruit on the bush. I have frequently seen my donkey eat these leaves.

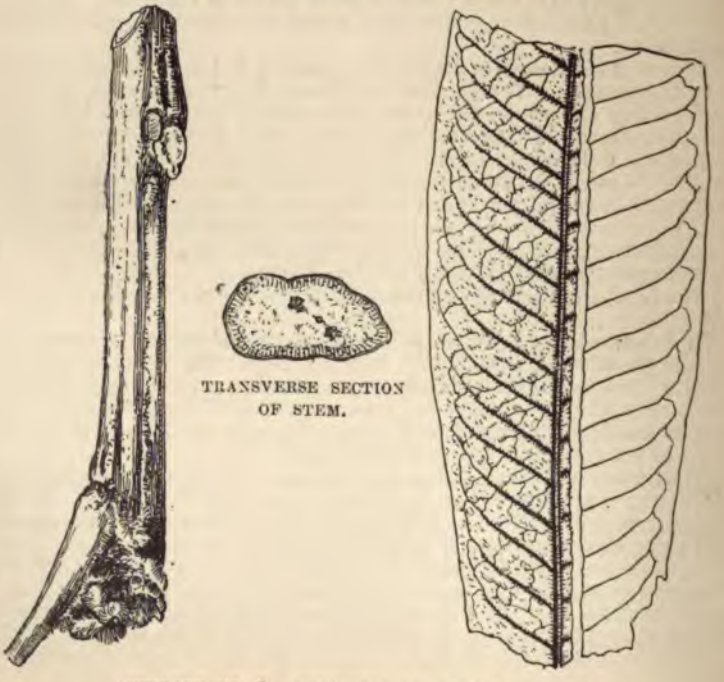
The Monbuttu name of the tree is Bandoree, and the Wasongora name is the same.

2. *Leaves.*—These leaves are dark green above, and of a paler green underneath; the midrib is covered with brownish hairs. On the upper surface of the leaf these hairs are visible only on the midrib; but on the underside they occur along the lateral veins, and are scattered over the whole surface. The leaf is feather-veined, the lateral veins being alternate below, but more or less opposite towards the upper half of the leaf.

The leaves are obtained from a large tree, which grows to a great height in the forest; it is generally one to one and a half feet in diameter. In the specimen seen by me the tree had been cut about three feet from the ground, and young shoots had sprung up at the margin of the cut surface. These shoots were five or six feet long, of a brown colour for the lower third, and the upper two-thirds were covered with very numerous small grey-coloured hairs; the bark being light green in the angle of the junction of the shoots, and on the cut end of the stem or main trunk. The leaves appear to mostly grow opposite each other on the branch, but this is not invariably the case.



ANTIDOTE NO. 1.—SKETCH OF LEAF AND STEM.



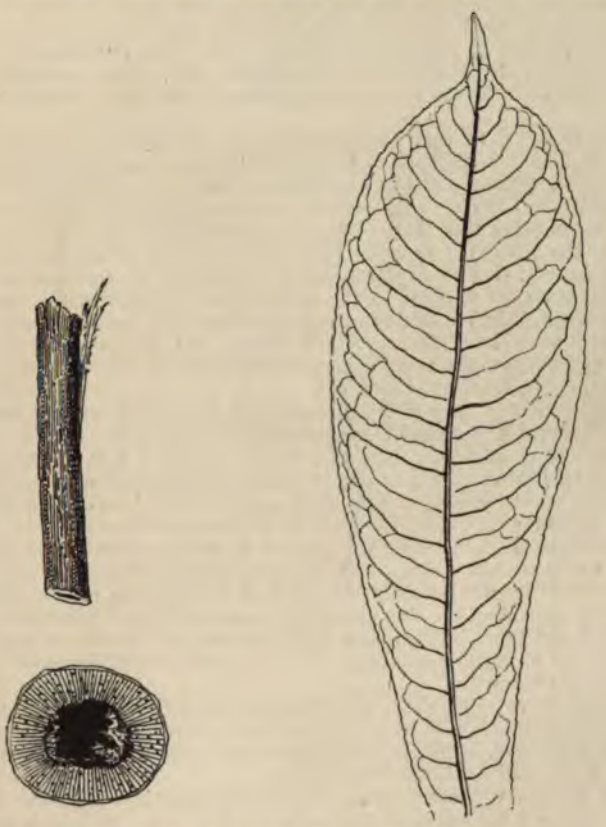
TRANSVERSE SECTION OF STEM.

ANTIDOTE NO. 2.—SKETCHES OF STEM AND LEAF.

In outline they are lanceolate, with an acuminate apex. In size they are from eight to fourteen inches long, and about three inches broad. The lamina without the midrib is used.

The Monbuttu name of the tree is Meahngahkee: the Wasongora name Epoongah.

3. *The Leaves and Scrapings of the Young Branches.*—The tree from which the leaves are obtained grows to a great height in the forest, and is generally about two feet in diameter. The stem of the specimen I saw was only a few inches in diameter. The small shoots which grow from the cut surface were



ANTIDOTE NO. 3.—SKETCHES OF STEM AND LEAF.

taken, but the small branches of the tree would also do. The branches are of a light green colour, like young grass, quite pliable and smooth, except where the leaves come off. The leaf is like No. 2 in shape, but is not hairy, and is smaller, about six inches long, and two and a half broad; dark green above, and of a lighter colour beneath.

The midrib of the leaf is thrown away, and the lamina of the leaf pounded with a little of the scrapings of the bark of the smooth branches.

The Monbuttu name for the tree is Ekhahngah: the Wasongora name is Whohro.

PART II.—IDENTIFICATION OF THE MATERIAL.

By E. M. Holmes, F.L.S.

The Poison.

The specimens above described have been kindly presented to the Museum of this Society by Surgeon Parke, D.C.L. It has been found possible by means of the material existing in the Museum to identify some of them, and it is hoped that in course of time, when the botany of the Congo is better known, it may be possible to identify the whole. Even with the knowledge now obtained it may be possible for therapeutists to suggest a reliable antidote for travellers to use when passing through the great Central African forest.

1. *The Bark.*—I at once recognized this as the bark of *Erythrophlæum Guineense*, Don. A specimen of this bark exists in the Museum, obtained, together with specimens of the leaves and flowers, by Dr. S. F. McGill, from Cape Palmas, in Liberia. These were shown to Surgeon Parke, who recognized the leaves as being like those of the tree from which the No. 1 bark was taken by the Monbuttu woman. In structure, as well as in appearance, the bark agrees with that of *Erythrophlæum Guineense*. As only one species of this genus is known to occur in the mainland of Africa, although a second (*E. Couminga*, Baill.) is found in the Seychelles, there can be little doubt of the identification here given. The Monbuttu and Wasongora names add further synonyms to the many names already given by different races to this bark, viz., Sassy, Mancona, Casca, etc.

An excellent summary of the literature of Sassy bark will be found in Stillé and Maisch's 'National Dispensatory' (4th ed.), p. 588.

The following quotation from that work will show that the symptoms exhibited by Lieutenant Stairs' dog were evidently largely due to Sassy bark. Remarking on its effects on animals (as recorded by Dr. S. Weir Mitchell and W. A. Hammond, of Philadelphia, in 1859) the authors say:—

"Its most conspicuous effect was general muscular relaxation, so that the animal would remain quiescent in whatever position it was placed. . . . . When a fatal dose was administered the head fell and was caught up again, and at last reposed on the fore paws, vomiting usually took place, the pupils contracted, the heart became slow and irregular, the respiration quick and laboured, and at length death occurred with general convulsions and sudden dilatation of the pupils."

2. *Large Green Leaf.*—This has been identified for me by Mr. C. B. Clarke, M.A., (who has paid special attention to the group of plants to which it belongs) as *Palisota Barteri*, Benth., of the natural order *Commelynaceæ*. The plant is figured in the *Botanical Magazine*, t. 5318.

There is, however, some little difficulty concerning this plant. I have myself seen the specimens of *P. Barteri* in the Kew Herbarium, and find that the leaves of different specimens vary slightly in hairiness, &c., but the leaf brought by Surgeon Parke exactly corresponds with one specimen of *P. Barteri* in the Kew Herbarium, collected in the land of the Monbuttu by Dr. Schweinfurth, in April, 1870, No. 3721.

Surgeon Parke mentions the flower as being strongly perfumed and several inches in diameter. But the flowers of *Palisota Barteri* are very small, and are arranged in a dense raceme two or three inches long. The description of the flower given by Surgeon Parke would apply to a *Hedychium* but not to the *Palisota*.

Surgeon Parke assures me, however, that there is no doubt about the leaf being the one used, although he may be mistaken about the flower, which

may have belonged to another plant with leaves similar in appearance. The leaves of *Palisota Barteri* are described in the *Botanical Magazine* as being only "one to two feet long, with a petiole of variable length," which is only half or one-third the size of those observed by Dr. Parke. There can, however, be no question that the leaf used for the arrow poison is that of a Commelynaceous plant, and very little doubt that it is the leaf of *P. Barteri*. The plants of this natural order are not, that I am aware of, known to possess poisonous properties, although several are used as diuretics, etc. This ingredient of the poison need not therefore be considered an important one.

3. *Thorny Creeper.*—This consists of a hollow woody stem about three or four lines in diameter, with whorls of three spines at intervals of about four or five inches. The spines, which are the hardened bases of the petioles of fallen leaves, are slightly bent backward, and have the remains of a hairy leaf bud in the axil. The bark is smooth and laminate in structure, the laminæ breaking up easily into flat fibres. On examination with a lens the medullary rays are seen to be very numerous and narrow, and the season's growth is marked by an irregular ring of large porous vessels. When a little of the bark is chewed the taste is not perceptibly bitter. On showing the stem to Mr. N. E. Brown, of the Kew Herbarium, he suggested the genus *Combretum* as containing some plants having a similar habit of growth. On looking through the African species in the Kew Herbarium, however, I could not find any stem exactly like it. I then forwarded a piece of the stem to Dr. Radlkofer, of Munich, who is probably the greatest authority in Europe on stem structure. He replied, "the stem is a *Combretum*."

In the 'Flora of Tropical Africa,' vol. ii., pp. 421 to 433, there are two species which resemble Dr. Parke's thorny creeper in certain particulars. One is *C. confertum*, Laws., a native of the Congo and Fernando Po, which has smooth dark brown bark, and the bases of the leaves form persistent spines. It is also described as a twining shrub, and in the 'Niger Flora' the young branches and petioles are said to be puberulent, which agrees with the fact that small brown simple hairs are present on the leaf-bud.

In another species, *C. grandiflorum*, Don., which is also found in the Congo, and is a scandent shrub, the internodes are four or five inches apart, and the bark is of a dark colour.

But in neither of these species in the herbaria at Kew and the British Museum are there three thorns in a whorl.

In the absence of leaves, therefore, the most that can be said is that the stem is derived from a species of *Combretum*, and probably either that of *C. confertum* or *C. grandiflorum*, or of an undescribed species.

Comparatively little is known of the physiological action of the plants of this natural order. The species of the genus *Terminalia* are remarkable for their astringency, and some of them for a yellow colouring matter; those of *Quisqualis* possess anthelmintic properties, *Q. indica* occasionally causing spasms and other ill effects; and the seeds of *Cacoucia coccinea* are used as a poison for bats in British Guiana.

A few preliminary experiments made at my request upon a small portion of the thorny creeper, by Dr. F. W. Passmore, indicate that there is no alkaloid and no tannin present, but evidence was obtained of the presence of a glucoside.

(It may be interesting to mention in this connection that the seed of the *Cacoucia* was examined by Mr. F. Short, Demonstrator in the Society's Laboratory, and was found to contain a crystalline body which gave the reactions for an alkaloid. It is quite possible, therefore, that the thorny creeper may possess a poisonous action, although the taste does not indicate it.)

4. *Green Stem.*—Judging from the structure of the stem* and from the

* In this I am confirmed by Dr. L. Radlkofer, who has seen the stem.

character of the single imperfect leaf brought home by Surgeon Parke, this ingredient consists of the stems of a species of *Strychnos*, probably *S. Icaja*, Baillon. The scars on the stem are opposite and indicate opposite leaves, and the venation of the leaf is that characteristic of the genus *Strychnos*. Of this genus there are several African species known, but only two of these have leaves as large as the one under consideration. Of these the *S. Icaja*, Baill. (*S. M'boundou* of Heckel) is known to be used in the Gaboon as an arrow poison and to be employed by the pigmies.*

In the Hanbury Herbarium there exists a specimen of this plant, and on seeing Surgeon Parke's specimen, I at once recognized the strong resemblance to this plant which it possessed. On showing the Hanbury specimen to Surgeon Parke he pointed out the acuminate apex of the leaf as having particularly attracted his attention in the growing plant and expressed no doubt concerning their identity. The physiological action of this *Strychnos* has not been very satisfactorily determined, although it is known to be poisonous. Rabuteau (1870) attributed its action to brucine, Kauffeisen to two alkaloids, the one a convulsant and the other a narcotic. According to Heckel and Schlagdenhauffen the bark contains strychnine but not brucine. They state that the parenchyma of the liber can be proved to contain this alkaloid by the use of sulphuric acid and bichromate of potassium, which give the well known colour reaction of strychnine in this part of the tissue of the bark.

It seems possible, therefore, that the tetanic symptoms which were observed in all the men who died at Avisibba, may have been due to the action of strychnine contained in these leaves, and which might have been absorbed more slowly than the Sassy poison. At all events, Surgeon Parke notes that it is remarkable that all those wounded by poisoned arrows died of tetanus, whilst those who were otherwise wounded did not suffer from tetanus. At first he felt inclined to think the tetanus might be traumatic, but his subsequent experience did not confirm this opinion.

5. *Seeds.*—These seeds Surgeon Parke tells me were found in a hut, and were not gathered from the plant. They are about the size of a small apple pip, being a quarter of an inch long and rather more than one-eighth of an inch broad at the larger end. The hilum is small, oval, and placed on the tapering end of the seed. In transverse section the seed is seen to be exalbuminous with the radicle accumbent. Thinking the seed might be that of a *Tephrosia*, several plants of this genus being used as fish poisons in Africa, I compared it with the seed of *Tephrosia Vogelii*, a well known African species, with which it agrees perfectly. By the kindness of the Curator of the Kew Museum, Mr. J. R. Jackson, I am enabled to show some of this seed for comparison.

---

* *Strychnos Icaja* was so named by Dr. H. Baillon from specimens given to him by MM. Franquet and Aubrey Lecomte in 1853–4. These specimens were not in flower and consisted of leaves and roots. The plant grows in the Gaboon, especially about the Isle of Koniquet. It has also been gathered near the river Como. Dr. Baillon described *S. Icaja* as having leaves 10–15 centimetres long, and 7 or 8 broad, with a petiole of 1 centimetre long, the veinlets between the three main ribs of the leaf being transverse or oblique. In the Kew Herbarium there is a specimen of a plant collected by Dr. Schweinfurth, No. 3597, in the land of the Monbutti, in flower in April, 1870, which answers to the above description. This plant is referred to *S. densiflora*, Baill., a species collected by Heudelot near Fouta Dhiallon in Senegambia, but which differs from *S. Icaja* in the shorter leaves with a shorter acuminate point. In the absence of the flowers of *S. Icaja*, Baill., it is not possible to say whether this plant is merely a form of *S. densiflora* or a distinct species (see 'Adamsonia,' xii., p. 369). The leaf brought home by Surgeon Parke, however, resembles the *S. Icaja* more than the typical *S. densiflora*.

The properties of the genus *Tephrosia* appear to be of a narcotic character, but required further investigation.*

It is obvious, therefore, that in this arrow poison the two chief active ingredients are erythrophlœine and strychnine, poisons the action of which is known, and for which it is by no means impossible that a physiological antidote could be provided.

Antidotes.

The native antidote consists of the leaves of three plants and the young bark of one of the plants. The white powder which is prepared, has been examined by Sir Charles Cameron, of Dublin, and proves to consist simply of wood ashes. It is "an alkaline material containing carbonate of potassium, chloride of potassium, and carbonate and phosphate of calcium. It is, of course, a caustic and antacid."

Of the three plants employed only leaves and stem were brought home, and these do not possess any very definite distinctive character except No. 1, the leaves of which have a remarkable glaucous appearance on the under surface, and under the microscope present numerous resin glands. Professor Oliver, late Keeper of the Kew Herbarium, suggests the genus *Unona* as that to which the leaf probably belongs. I have compared the leaves with the plants of the genus both at Kew and the British Museum, and find that they approach very nearly to *U. lucidula*, Oliv., but differ slightly in venation and in the presence of appressed hairs, those of the antidote being spreading. The plants of the *Anonaceæ* are chiefly remarkable for aromatic and stimulant properties.

Nos. 2 and 3 must therefore remain unidentified until better material can be obtained. This, however, is of comparatively little importance, since, the nature of the poison being known, it may be quite possible for therapeutists to devise an antidote superior to the one used by the pigmies.

[It will be easily seen that there are two chief poisons used in the above pigmy preparation for arrows, and both of which have quite different actions. When *Erythrophlæum* is in excess in the poison, then muscular relaxation is the prominent symptom; when *Strychnos* forms the principal ingredient, tetanic symptoms are present — therefore the different physiological actions exhibited by our men and by Stairs' dog are easily explained and understood.]

Nov. 28.—To-day I tabulated some of the results of my experiences of our farming operations, they are as follows:

* After this paper was read, I received from Sir C. Cameron one of the seeds sent him by Surgeon Parke. This proves on examination to be the seed of *Erythrophlæum Guineense*, and is the one used in the poison, *vide* Sketch No. 5 (Poison), as it is the produce of a large tree, not a shrub.—E. M. H.

—	Interval between Planting and Appearance above Ground.			From Appearance above Ground till Ripening.			Observations.
	Mons.	Weeks.	Days.	Mons.	Weeks.	Days.	
Indian corn . .	..	..	4	3	0	10	Sometimes takes 4 months to ripen.
Peas	..	..	10	2	0	2	
Beans	..	..	4	2	3	0	Kidney beans took 52 days.
Matemmah . .	..	..	8	8	0	0	
Onions. . . .	..	..	20	3	0	0	
Water melons. .	..	..	12	4	2	0	
Pumpkins . . .	..	..	8	3	0	0	
Brinjals . . .	..	2	0	2	2	0	
Peringanis . . .	1	0	0	4	0	0	None of these were ever watered artificially; rain-water sufficed.
Rice	..	1	0	5	0	0	

The scouts, on returning to-day, reported that the elephants had destroyed a very large portion of the banana plantation. Now, the scouting party go out twice a week, and their duty is to keep off the natives, and the elephants; and also to report the results of their observations every day. They had been over the same ground a few days ago, and had told us nothing of the existence of any damage of this kind. When cross-examined on this point, and asked why they did not give an earlier report of the mischief, which they now say had been going on for some time, their chief, Ali Jumba, replied, "Oh! if I had reported this, you might have thought that I wanted to go to the plain." I do believe that the real reason for their silence was to give the elephants time to destroy all the bananas, so that they could then say with some show of reason, "We *must* go to the plain now, as there is no food to be got here." This is a typical specimen of the Zanzibari method of doing things "right and straight" for the white man.

Nov. 29.—We overhauled some of our rifles and ammunition.

Stairs went out with the scouts to-day, on account of the unsatisfactory nature of the report of yesterday. He has just returned after visiting the scene of the alleged mischievous attempts of the elephants to destroy all our bananas.

He found that the actual damage was little or nothing. On his rounds he discovered a new plantation where there are plenty of bananas.

Nov. 30.—The men finished the planting of the small fields to the east of the Fort, to-day; all the farm is now sown with corn and beans, &c., excepting a few small patches, which are to be utilised for tobacco, a few small plots of peas, and a few other minor items.

Dec. 1.—The first day of the last month, and Christmas in twenty-four days! We are already puzzling our wits about the invention of a dinner for Christmas; our available materials consist of bananas, herbs, peas, beans, corn and rice. There are no fresh fruits in this neighbourhood, except mabunga (fruit of the india-rubber vine). We make a very filling (but flatulent) soup from skinned beans. We also provide a good dish of greens, by boiling the tops and flowers of the pumpkin. However, notwithstanding the elementary nature of our diet, both Stairs and myself are in good health, and strong. Nelson is still very delicate; he sleeps well, and cannot take much exercise, but he never will thoroughly recover until he gets meat.

Dec. 2.—First Sunday in Advent. I had a severe attack of fever on yesterday afternoon, the first since the 26th of October. A heavy shower of hail fell this morning, making the fourth shower which has fallen within the last twelve months. There had been no rain for several days until Saturday last.

Mr. Stanley is due here, according to his own calculation, in about fourteen days; by the same authority he is to reach the Albert Nyanza on the 2nd of January, 1889.

Dec. 3.— . . . .

Dec. 4.—I went out this morning with a party of nine men, to reconnoitre the position, &c., of the plantation. We came upon six natives, who lay in ambush and shot at us with poisoned arrows. They escaped, as they always do, they are so extraordinarily nimble; and when they have got a yard or two ahead into the bush, it is impossible to see them on account of the extreme density of the foliage. One of my men was wounded: a native woman was hit in the leg.

At a short distance further off, we found a few banana leaves, mounted on sticks, and arranged so as to from a

shade to keep off rain. Some of the natives had evidently used this as a camping-ground for a short period, for we found some dried bananas lying about: also some bows, quivers, and arrows; we were more gratified to find three earthen pots, which the natives use in cooking. I took these, as we wanted them badly, for most of ours had been broken since we settled at the Fort. We also found a little porridge (scalded banana) flour, which had been just freshly made; and a few leathern belts, which is the only native article of apparel. The discovery of this sample of porridge here struck me as very peculiar; the first place where we had seen bananas dried and pounded into flour was at Ugarrowwa's camp—even the Zanzibaris, and the other natives, whom we have met on our line of progress, had not known this method of preparing bananas for food, till they saw it used by us. So it is evident that the few natives with whom we had become intimate on our way, had returned to their villages, and told their neighbours what they had seen us do.

Ever since we learned this method of preparing our bananas, we have been able to diminish our risk of starvation very considerably. We can make enough flour in one day for several days' rations; and the weight is so much less than that of the corresponding quantity of the green bananas, that men can carry a considerable number of days' rations with them, in addition to their other loads, whereas they could not manage more than a couple of days' supply of the green bananas. The banana flour is most nutritious, and very sustaining.

We have commenced the cutting-down of our rice crop to-day; it is an exceptionally rich one, and had never been artificially watered from the beginning. The great downpour of rain, which occurred in copious quantity for a considerable time, proved amply sufficient.

Great quantities of locusts of various colours, green, brown, and black, came to the rice field; they are not unlike grasshoppers in appearance and size. We catch them in hundreds, toast them on the frying-pan, where they are cooked with a "hop" and a "crack;" and eat them as a condiment. To-day I measured a high jump which had been cleared by an elephant; it was over eight feet in perpendicular elevation. I had previously thought the ungainly animal incapable of such a gymnastic feat.

My Monbuttu woman informed me to-day that the Wambutti and Wasongora men have but one wife each—that is for an ordinary inhabitant; but the Sultans of the villages indulge in three or four. The average number of children —by the same parents—is about six or seven. She also tells me that if a native says to the husband of a woman, "Give me your wife," he will be shot at with arrows by the husband—not unlike what sometimes happens in less barbarous countries.

The woman who had been shot yesterday, on being approached by one of our men, made a spasmodic effort, seized a knife from the ground, which had been dropped near her by one of the men in running away, and made a vicious attempt to stab the Zanzibari who had approached to help her.

CHAPTER XVII.

LIFE AT FORT BODO.

Traps for catching ants—Condiment made of mixed and pressed ants—My boy Muftah plays further tricks on me—Native method of catching fish in the river—Narcotic effect exercised on the fish by a plant—A substitute for table salt obtained from the *Pistia Stratiotes*—Muftah runs away from me for the third time—His submissive return—Weight of Nelson, Stairs, and myself—A Zanzibari game resembling draughts—We cut our rice crop—Preparing the rice grain—We divide a quantity of unhusked rice—The continued drought detrimental to our crops—By a simple device Stairs finds the true north, and also ascertains the time of day—Stairs and myself down with fever—No excuse for Emin Pasha's non-appearance—Elephants plunder our banana plantation—We manufacture fairly serviceable boots for ourselves, after the fashion of Veldtschoons—Operation of removing a guinea-worm from one of the Mahdi men—Damage by rats—A welcome downpour of rain—Nelson treats us to some pombé, or banana wine—The soldiers of Equatoria—Hopes for Mr. Stanley's return—The colour of our corn—We have a greater variety of food—Dining *à la carte*.

DEC. 5.—This morning I went into the forest, with my Monbuttu attendant, to make traps for collecting ants, as they are very good eating when properly prepared. They are mostly winged. We catch them by making large holes close to the ant-hills, and putting a little fire in the bottom of each. During the night the ants get into the hole, being attracted by the heat, and in the morning great quantities are there—for us to do with as we think proper. We find them of various colours, black, brown, and white. They are mashed and pressed together; and, when cooked in this way, make a good *kitewayo* (condiment), which gives important aid in the digestion of the stuff which we are obliged to use with such monotonous uniformity day after day. The black ants, make a dark paste, not unlike *caviare;* the white ones, a similar paste, but, of course, of a light colour, and more piquant as they are much fatter.

My Wangwana boy, Muftah, has been trying a new edition of his tricks on me latterly. My Monbuttu woman con-

fidentially informed me that he ate my fish last night. He had fervently declared to me on returning in the evening that he had not caught any. The earnestness of his asseverations made me suspicious; I had, however, already had my doubts, as he has for some time been bringing me but a few small fish at a time, while Nelson's and Stairs' boys brought them a much greater number, and of far larger size. Accordingly, I went out in the afternoon with this hopeful boy, accompanied by my faithful Monbuttu, and one of the men, to see the fish-baskets; which were set in holes in different parts of the river. I had them all taken up, and brought further up in the river—to new places, for a change. I had sent him out with definite instructions to do this on Monday last (3rd inst.); and he returned to inform me that he had brought six baskets to places higher up in the river. This statement, as, indeed, I had already more than half suspected, I now found to have been a lie.

When I returned to camp there was a terrible commotion amongst the boys, as Nelson's boy, Osmani, charged Muftah with having lifted six of his baskets. This is considered a great crime among the men; as fish form their only *kitewayo*. This leaves me but four baskets, instead of ten. I also found out that Muftah had brought three of my baskets to his friend Fetteh, obviously to give the latter an opportunity of setting them in some pool to catch fish for himself, as all were in good order and completely rigged up, requiring no repair. On arriving at camp, the young rascal, Muftah, came up to me, and asked me if he could go to cut wood. I gave him permission, and he has not yet returned to get my place ready for dinner, or make my bed: I expect that it is the burden of his guilty conscience which retards his footsteps.

The fish are very numerous in the river; it is fortunate that the supply has been kept up, as each man has a basket in the river every day. They are very small, and resemble minnows or gudgeon. They are caught in the stream from which we draw water for drinking and cooking; this is distant from the fort about 150 yards, and is in no way contaminated by the sewerage or refuse from the latter. There are certain limits told off for washing and bathing; and other special portions for drawing drinking water only.

There is a small plant which grows here, the leaves of

which—when thrown into the water—appear to exercise a narcotic effect of some kind on the fish. Some of the latter, soon after the leaves have been placed in the water, are seen to float—belly upwards—and can then be easily caught; but, if left alone, they always recover after some hours, and are able to swim away. The fish-baskets are ingeniously made with rattan cane, and are of the same design as those used by the natives on the Congo, Aruwimi, and Ituri rivers.

There is a small green plant, not unlike young lettuce, which grows flat over the surface of swamps, and in enormous quantities, so as completely to cover over the surface of such places. It sends down a great number of rootlets, which interlace and form a network, strong enough to support a weight of two or three pounds. When these leaves are collected and dried, the natives prepare a substitute for table-salt from them, by burning and collecting the ashes. They are greatly used for this purpose by the inhabitants of the forest, who have no other source from which to obtain salt for domestic uses. The salt so obtained has an alkaline (potash), as well as a salt, taste. The plant, when fully grown, is not unlike the house-leek (*Pistia stratiotes*).

DEC. 6.—Muftah has not yet returned to me; I suspect, however, that he slept in the fort last night all the same, with some of the men—all Zanzibaris are of the same caste and disposition, and are very clannish. I have now got but five fish-baskets instead of eleven—I put a new one in yesterday. I did suspect, when making my investigation yesterday, that all the baskets were not mine, and told Muftah as much; but with the usual Zanzibari self-possession and inventive power, he almost succeeded in persuading me that they were all mine. He has now left me for a couple of days, after which I feel certain that he will return, prostrate himself on the earth before me, creep towards me, and kiss my boots in evidence of devoted humiliation. When asked why he ran away, and reminded that there was no one to get me anything to eat, make my bed, &c., &c., he will say, "I was afraid of you, master, to return;" the odious young wretch ought to say, "I was ashamed of myself." I will cure him of some of these tricks when I catch him; and also give him some reason to be afraid of me in future, by having him held down and breaking a few saplings over the prominences of his surface. This is

the third time the villain has run away from me, and I have made the same vow every time, but have never carried it out. I believe that he would be a much better boy if I had been a little more severe with him. Sometimes he attains the summit of my admiration, and sometimes he is down at zero.

We white men weighed ourselves to-day; Stairs has increased in weight by eight pounds since Oct. 2nd; Nelson has lost two pounds; I have lost exactly the same amount as Nelson.

Stairs	151 lbs.
Nelson	138 „
Parke	148 „

Muftah came back this afternoon, and, as I had anticipated, approached on his hands and knees to kiss my feet. So I at once sent for one of the men, and had a dozen "administered" to him with a cane; it is not too much, as the Zanzibari hide is very thick. It is strange that the Zanzibaris, if commanded by one of us whites, will immediately seize on one of their comrades, hold him down, and give him the rod, till told to stop; I have never known one of them to refuse.

I have manufactured a draught-board and draughts, so that we may have an occasional game. The Zanzibaris are continually playing a game very like draughts—making holes in the ground as a substitute for squares, and using sticks or stones for draughtsmen.

DEC. 7.—The first cutting of the rice is finished to-day; there was exactly one acre of ground planted. It took ten-and-a-half cups of rice to plant it, and the return now is 118 cups of rice to one cup of seed; but there is to be yet another cutting, as the blades which were not quite ripe are left for six or eight days longer to ripen, when perhaps one-sixth of the above return will be added. The rice-crop has taken exactly five months to ripen from the day it was sown. It is very easily threshed. In cutting down, only about a foot of length of the straw is removed with the blade. This is laid on the ground, and the *straw* is struck and threshed with sticks; so as to shake out the rice-grain above, without bruising it. This is done by men who remain sitting down during the process. The husk is afterwards removed, by pounding in a wooden mortar, and sifting; this process separates the rice completely from the husk. Locusts and

birds are very destructive to the rice-crop, especially a kind of weaver-bird of blackish colour (excepting the breast which is white), this bird always goes about in flocks, and does great mischief.

DEC. 8.—Stairs went off with a scouting party to-day. I have since heard three shots, but do not know what they are all about. The peas have now grown too long to remain upright; so we have been occupying our spare time to-day in attaching them to rods for support. They have been in flower for several days.

Stairs has now returned; there was a collision with some elephants, and all three shots which we heard took effect.

DEC. 9.— . . . . .

DEC. 10.—Yesterday and to-day, Stairs and I amused ourselves by planting each side of the "Albert Nyanza Avenue" with brinjals.

DEC. 11.— . . . . .

DEC. 12.—Nelson went with a party scouting to-day, but saw nothing.

Stairs had an attack of fever yesterday—the first for a long time. He is somewhat better to-day—temperature only 101° F. We divided a quantity of unhusked rice to-day: it amounted to twenty-eight-and-a-half *peêchis* (each peêchi contains fourteen cups) in the husked state. (Without the husks each peêchi represents between five and six cups. When there is very little else to eat with it, two cups (or about one pound) is enough for a single day's ration.) Of this quantity, we shall have to give some—say 100 cups in all—from each of our shares, for distribution among the men. About one-and-a-half pecks will be enough for each of our three shares. We are also keeping three peckfuls over for seed, and are reserving twenty cups for Emin Pasha.

DEC. 13.—I have now been appointed head gardener of the community. We have very few vegetables to plant which are really worth growing.

Stairs' fever still continues, although not very high—his temperature is 100·2° F. I am giving him antipyrin, also Warburg's tincture.

I had a good feed of locusts for luncheon—about sixty of them; they went very well with half a cup of rice. The men are all repairing their huts to-day, and thatching them with

banana-leaves; as they are in very bad condition—both walls and roofs.

There has been no rain now for four days; if this drought continues much longer our corn-crops will be ruined by the scorching sun. Whenever it rains here we call it *fine weather*.

Stairs, who is of a somewhat scientific turn of mind, found the true north to-day by a very simple device; and also ascertained the time of day. He placed a small stick upright in the ground, then described a circle with the stick as centre; this was done before noon. Then, as the sun ascended higher and higher in the heavens, the shadow of the stick grew shorter and shorter, till the sun arrived at the meridian. This, of course, was exactly at noon, a point of time which corresponded to the moment when the length of shadow had attained its minimum extension. This point was exactly defined by repeating the observations for a couple of days, and marking exactly the curve described by the shadow on the ground. The radius of the circle traced around the stick was intermediate between the extreme length of the shadow, so that the position of minimum length of the latter was accurately defined—by taking the two points at which the line of shadow intersected the circle, and bisecting the line of junction. The line joining the middle point with the position of the stick itself then gave the line of the shadow at twelve o'clock noon: it also indicates the position of the meridian of Fort Bodo. The magnetic north is here sixteen degrees to the east of the geographical north.

Dec. 14.—Stairs went off with the men to-day, to look for bananas. Both he and I had high fever last night—each of us having a temperature of over 104° F. I attribute our recent attacks to the fact that the ground has been deeply hoed for planting our corn-crop. This has been done all around the Fort; and the operation has, pretty evidently, I think, set the malaria floating about in quantity. All three of us had remained pretty free from fever while the corn stood high, and the ground had remained unbroken for some considerable time. There has been no rain for the past five or six days.

On this day twelvemonth, Mr. Stanley arrived at the Albert Nyanza for the first time: we may have still another twelve months of these peregrinations before us, and all because Emin Pasha did not come in his steamers to meet us. He might

have done so: for he had been informed by letters from Zanzibar that we should arrive on the 14th of the month, and we actually gained our destination on the 13th, a day earlier than the one named. So that there was really no excuse for his non-appearance. He might have come down to warn the natives; and I suppose would have done so if he had had control over his men, so as to be able to utilise his steamers, and move about in them as he wished.

DEC. 15.—I went out with the scouts to-day, and lighted some huge fires, as the smoke is certainly the most effectual weapon for keeping the elephants away. The brutes have again been plundering our banana plantations; and, if allowed to persist in their raids, would soon uproot everything in the shape of a banana-tree to be found in the whole neighbourhood.

We are now furnished with fairly serviceable boots, which we have made ourselves, after the fashion of veldtschoons; the soles are made of rhinoceros or hippo-hide, and the uppers are constructed from ox-hide. They wear very well, except for the stitching, which is always giving way—a bad testimony to our amateur skill. We sew with thin leathern thongs, or with twine or cord—which the natives prepare from grass and palm fibres. However, shaky as these structures are, they are very useful in protecting our feet from thorns, insects, sharp stones, and poisoned spikes which the natives place in the paths to prevent our advance. After being worn for some days in succession, and kept constantly soaked by having to wade through so many streams, they develop an offensive smell, as they are not tanned. Stairs turns out the most fashionable-looking article; the specimens of his make always have pointed toes; none of us attempt anything in the way of heels. One of us can make a pair of shoes in two days by working steadily at them. All members of the advance column, including Mr. Stanley himself, Jephson, and ourselves, are now reduced to wearing these imitations of civilised manufacture.

DEC. 16.—Exactly six months ago Mr. Stanley left here for Yambuya, so that by this time he ought to be near us on his return to the lake.

One of the Mahdi men here got a small swelling on his leg three days ago, which appeared like a boil. I suspected that it was a guinea-worm, as its presence is usually manifested in

this way, and it nearly always appears on one of the lower extremities. On examining it this morning, I found that the skin had ulcerated over the most prominent part of the swelling; and the worm formed a small projecting cord, like a piece of white thread. I adjusted a clove-hitch of strong thread around the creature, and coiled a portion of it round a small piece of stick; by repeating this winding process carefully it will all be got away—if no break occurs—within about ten days. The specimens which we have seen are about four feet long—they may vary from one to twelve feet. Sometimes the head is the first part to protrude, sometimes a loop of the body. In the latter case, it has to be treated in the same way, only requiring extra care on account of having two segments to deal with.

The man who is the subject of this attack of the parasite, had been free from all symptoms of guinea-worm since he left the Mahdi country—in the beginning of May last; accordingly, the worm has taken all that time to incubate and mature, viz., seven-and-a-half months; as it is almost certain that he did not get the worm since he left his own country in May. None of our men have ever shown any evidence of the presence of guinea-worm, although they wash and wade in every kind of waters, and have done so all through our African pilgrimage—both in the forest and on the plain. On the other hand, everybody in the Mahdi country seems to be taxed for the support of the parasite. Our men do not even take the precaution of drying themselves afterwards; so that I think if there was any chance of anybody getting a stray guinea-worm they would have succeeded in securing it.

Every other day a man comes to me to show a bit of his nose, finger, or toe nibbled off; or with a deep hole burrowed into the base of a sloughing ulcer: this is done by the rats while the individual is asleep.

We had a steady downpour of rain this morning, which lasted from 4 A.M. till 10 A.M. If not too late already, it is the only chance of salvation for our crops, which have been thoroughly parched by the late scorching heat and drought of six or seven days.

I have five earthen pots in my room, collecting the leakage, and would require about twenty more, to save the floor at all well.

DEC. 17.—Nelson treated us to some pombé (banana wine) to-day; it was really very good, although made from bananas which were not at all ripe. This beverage is prepared by cutting two or three bunches of ripe bananas into pieces of half an inch in length; adding two gallons of water, and leaving it to stand. On the third day it is a really delicious drink. At first it has a sweet tart taste, which after four or five days becomes very acid. In a day or two more, it changes to a fluid having qualities very like those of vinegar: quite as sour in taste and smell. If boiled down on the third day, it makes a good syrup.

I employed myself till noon to-day, in hoeing up weeds in the garden. We think that the real reason why Jephson has not come with the carriers to relieve us before now is, that Emin is afraid to trust his men with so much of our ammunition: they would probably, on getting hold of it, decide to remain where they are, and utilise it to protect themselves from hostilities. All the soldiers are natives of Equatoria, and almost, if not quite all, of the Egyptians are convicts from Egypt; so that it is perfectly natural that they would prefer to live where they are—in coarse luxury.

DEC. 18.—There is nothing new in these parts to-day—except a full moon. *This is the day on which Mr. Stanley said that he would be here on his return from Yambuya.*

DEC. 19.—We are hoping that Mr. Stanley may now come at any moment; or, perhaps, a detachment of the men under charge of an officer, to convey the loads which are lying here, on to where he may strike the path—perhaps anywhere between this place and the plain. It would have been much better and pleasanter if Jephson had only come to us, as we could then have removed all our things comfortably to the Albert Nyanza, without having this dismally long sojourn at Fort Bodo. We cannot explain his absence, excepting that he has been taken prisoner, for we know his almost proverbial energy, and how anxious both he and Emin Pasha were to come and relieve us at the Fort. The latter was specially anxious to have the opportunity of seeing the Fort, and the forest, and of adding to his natural history collections by the way.

The effects of the great heat and want of rain are beginning to manifest themselves in our corn-crop; which is turning its colour from its former beautiful dark green to a lighter tint,

interspersed with streaks of almost pure white—an infallible indication of its failure.

A scouting party is again out to-day after elephants. On the whole, we get along very well with the men, and but rarely have we to inflict any punishments. Stairs is a splendid hand at managing them; he visits the sentries twice every night. We have a greater variety of food now, as the Monbuttu and our boys have discovered many new kinds of leaves, bulbs and pods; which, if not always, strictly speaking, pleasant to the eye, are, we have found, tolerably good for food, at least to persons living under circumstances of enforced vegetarianism. These we bruise up together as an mboga, which we find fairly enjoyable as a change from our previously limited *menu:* we now dine *à la carte.*

CHAPTER XVIII.

ARRIVAL OF THE REAR COLUMN AT FORT BODO.

Mr. Stanley up to date in his marches—He arrives with the rear column—His careworn and ragged appearance—The melancholy history of the rear column—Shocking condition of the men with ulcers—A terrible period of starvation experienced by them a few miles from the Fort—Bonny is sent back for some loads—Nelson, Stairs and myself, discuss the story of the wreck of the rear column—After burying a large glass bottle Nelson and Bonny destroy the Fort—Commencement of our third march to Lake Albert—Mr. Stanley makes me a timely present of some blue serge—Our Christmas dinner—Accident to my box of clothes at Banalya—Distribution of European provisions among the officers—Loss of Zanzibaris during the forest march from arrow-wounds—Nelson the best cook of the Expedition—Letters brought me by Bonny from Yambuya—The porterage of our tents and other baggage—Mr. Stanley and I remodel our tents—Two victims to the horrors of starvation—Bonny rather reserved about the rear column business—My New Year wishes—Review of the past eventful year—A Nubian wounded by natives—Difficult task of removing six iron-headed arrows from his body—Some Zanzibari characteristics—Our wounded Nubian doing well—Dreadful smell from the huge gangrenous ulcers—Manyuema women: their dress and extremely handsome appearance—Another instance of "African affection"—We camp at Mandé—Stanley's Starvation Camp—Arrival at Mount Pisgah—We halt at Kandekoré.

DEC. 20.—At about 10 A.M., I was talking to a Zanzibari named Yakouti, who was doing duty as sentry on the top of the little eminence on the Albert Nyanza Avenue. In the course of our conversation, he volunteered the remark that Mr. Stanley would not arrive for two-and-a-half months; and, just as I was in the act of explaining to him that he had so far been up to date in his marches, and that this had been evidenced by his arrival at Zanzibar, at the Congo, at the Aruwimi, at the Albert Nyanza (one day too soon), and his relief of Captain Nelson and myself at Ipoto in exactly the time which he had calculated — and was commencing to point out that he was now just due at Fort Bodo, I was interrupted by the report of shots fired at some little distance —*the signal of Stanley's arrival with the rear column!!!* We were emancipated from our wretched bondage! Our first

duty on the occurrence of any alarm was to stand by the Fort with our rifles ready; so I ran back hastily to the Fort, and there found Muftah awaiting me, with my Winchester and cartridge-bag—he also informed me that it was "Bwana Couba" (*i.e.* the big master) who was coming. Stairs had mounted the sentry-box overlooking the Manyuema Avenue, and shouted that Stanley was coming. Nelson came out to the entrance of the Fort, and all the men began to jump about in a state of ecstacy. I ran down to meet him; and grasped his hand—just on the bridge which we had constructed over a small river near the Fort. He had about a dozen scouts marching in front: one of these carried the Egyptian flag; the others cut down any obstruction which happened to lie in their path. Mr. Stanley looked careworn and ragged to an extreme degree—and I never felt so forcibly as now, how much this man was sacrificing in the carrying out of a terribly heavy duty which he had imposed upon himself. He might very well have been living in luxury within the pale of the most advanced civilisation, housed in some of its most sumptuous mansions, and clothed with its choicest raiment, and—here he was. I had never before so fully believed in Stanley's unflinching earnestness of purpose, and unswerving sense of duty.

I asked him how Jameson, Barttelot and Bonny were—I had never met Mr. Troup, and had seen Mr. Ward but once (the two remaining Europeans, Mr. Walker and Mr. Ingram, had finished their contract with the Expedition long ago). He replied that Mr. Bonny was the only white man who had returned with him, all the others were gone: Barttelot was shot on the 18th of June, at Banalya, by a chief, for interfering with his wife who was singing at 5 A.M.; Troup had come up in the steamer after we had left—got sick, and went home again; Ward had also arrived after we had left, but was sent down the river, and not permitted to return; Jameson had gone to Stanley Falls for carriers, and perhaps on to Bangala if necessary; and—of the two hundred and sixty odd Zanzibaris, who had been left to bring on the loads of the rear column, considerably less than a hundred had survived to tell the melancholy tale. Mr. Stanley had with him —2 Europeans, Mr. Bonny, and William; 161 Zanzibaris (men and boys); 13 Nubians; 1 Somali, 25 Mahdis; and some

Manyuema—including women, who always accompany their masters.

DEC. 21.—All the loads were brought into the Fort yesterday, but some of the sick did not arrive till to-day. Every one looked worn, thin, and exhausted. The men were really in a miserable state from debility and hunger, I never saw so repulsive a sight as that furnished by the unfortunate creatures; eaten up as they are with enormous ulcers. As they came dropping in, the stench—emitted by the putrid flesh and the dirty scraps of bandages—was sickening, and actually filled the air all around the Fort, as well as within it. The great majority of the ulcers were on the lower extremities—great, gangrenous, rapidly-sloughing surfaces most of them—many were up to a foot in length, and about half as wide, with the bone exposed along the whole length. Many had hopelessly destroyed the feet: in some cases the tarsus, metatarsus and phalanges had all dropped out by degrees, and great strings of putrid flesh were left hanging out from the stump. This day I removed as much dead bone as could conveniently be packed on two soup plates.

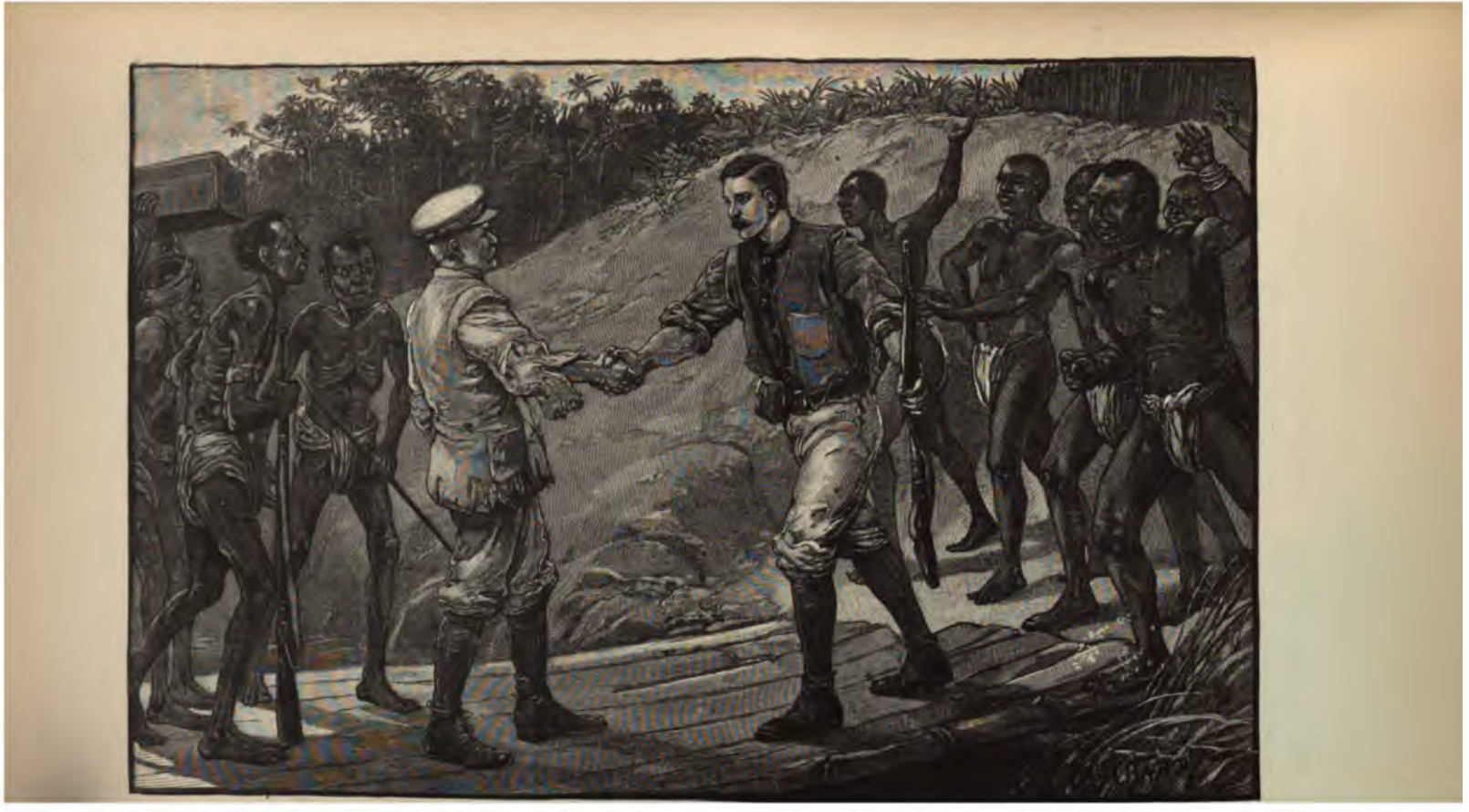
Mr. Stanley had had plenty of food for himself and the men, till he reached near the Ituri river; but from this time they had gone through a terrible period of starvation; as bad as at any period of the Expedition. Many of the men perished of want. The poor creatures were now supplied with plenty of good Indian corn; and they washed and rested their weary and worn limbs in camp.

Bonny was sent back about fifteen miles—towards the Ihuru river—with a party of those men who had been staying with us at the Fort; to bring on some loads which Mr. Stanley had buried on the way, as he had been unable to carry them.

DEC. 22.—Rations were distributed to-day; each man getting sixty heads of corn. The whole caravan, as now collected at the Fort, including the party which had stayed with us, numbers as follows:—Zanzibaris, 205; Nubians, 15; Somalis, 1; also about 300 Manyuema.

We all now packed up our belongings—preparing to start for the Albert Nyanza. I packed up the medicines in two loads.

Bonny returned with the boxes.



In the evening we three whites (of the Fort) sat on the *barazan* (seat for palaver, after Arab fashion) and discussed the facts of the Expedition. We had been horrified by the story of the wreck of the "Rear Column," which we had left in June of last year, well secured in a stockaded fort at Yambuya. Out of the five Europeans concerned, but one now remained to tell the ghastly tale: two had been sent down river, one had been shot, and the remaining one had gone down the Congo to Bangala. About one-third only of the Zanzibaris survived; an enormous amount of baggage and ammunition had been lost or abandoned; and the Europeans appeared to have been completely at loggerheads with one another, and on extremely bad terms with their men.

DEC. 23.—Mr. Stanley, Stairs, and myself left the Fort on our way to the Albert Nyanza. Nelson and Bonny remained behind for some hours with thirty men, to burn the Fort, bury a large glass bottle or demijohn (about three feet in height) at the eastern extremity of the enclosure, and then bring on some loads. The "demijohn" was buried about a couple of feet under ground, and contains a letter written by Nelson, and a few small things of European manufacture; which may teach the African antiquarian of a thousand years hence that a crude form of civilization, known as the "English," had penetrated into the heart of Africa, in the year of grace 1888.

We marched ten miles, and camped. The ground around Fort Bodo has all been left bearing the evidences of our farming industry, richly planted with corn, melons, brinjals, and peas. The latter we left looking extremely well.

DEC. 24.—Mr. Stanley marched on to a camp five miles ahead, accompanied by Stairs. He sent back fifty men to Nelson at the Fort, to carry on the boxes which had been left there. I remain here with fifty-two loads, and when Mr. Stanley gets to his camp he is to send back men to me, and we will bring on these loads to his camp, where we expect to arrive at 4 P.M.

DEC. 25.—*A merry Christmas!*

Mr. Stanley presented me with four yards of blue serge to make a pair of trousers—a timely gift, which was very much appreciated, as the want had long been felt. At an earlier date of the progress of the Expedition, we had been allowed

three carriers; one of mine ran away with all my clothes. I had, however, a reserve supply, which was left at Yambuya in charge of the rear-column.

Nelson and Bonny have now arrived with the boxes from Fort Bodo. Stairs was sent with a party of men, to try and procure some food in the shape of bananas. In the evening a letter arrived from him, saying that he would not return till to-morrow, as the men had scattered themselves all over the banana plantations, and he could not get them together; also through the villages, after goats, fowls, &c., &c.: they had got out of hand, and had lost some of their discipline, owing to their horrible privations.

We arranged our Christmas dinner of rice and beans, and a cup of coffee, which was given to us by Bonny. Sugar and a little brandy were also added, which we consumed with best wishes to our friends and relations at home. Our usual custom now is to dine separately; it is much the best way for many reasons. In the first place, we can never all sit down at once, as duty always requires that one or more should be on the move, so that if we wait till every one is ready, the food must be cold; and, as a rule, it consists simply of roast bananas. A second reason is furnished by the fact that, whenever we are fortunate enough to have a piece of goat, some like it underdone, and some overdone; and this discrepancy of tastes has not unfrequently led us to call the mess president to account.

We are kept in a fog of amazement in trying to investigate and to understand the why and the wherefore of the total wreck of the "Rear Column." Bonny tells us that Barttelot was off his head; and, certainly, from the description he has given us of the detailed events at Yambuya, we are lost in astonishment for a satisfactory explanation.

DEC. 26.—Very heavy rain fell to-day.

Each of us left one load of clothes at Yambuya, to be brought on with the rear column; but I have been informed by Bonny that my box was broken open by accident on the march near Banalya, and a great portion of the contents thrown away. So that, unless I get some more cotton or other textile fabric from Emin Pasha, I shall be obliged to wear skins during the remainder of the time of my African pilgrimage; latterly, we have all been seeing a great deal too

much of each other. All my note-books are lost, and the cartridges for my "twelve-bore hammerless" were given away to the officers of the steamer *Stanley*, so that my shot-gun is of no use to me now. The remains of my kit were distributed amongst Stairs', Jephson's, and Nelson's loads after the disaster to my box. Half the things were nearly quite rotten from damp; fortunately, my boots were preserved, and have turned up all right. Mr. Stanley also distributed a share of European provisions to each of us: milk-tins, 3; butter-tins, 4; brandy, 1 bottle; biscuits, 1 tin (about a foot in length, breadth and depth each about six inches); beef-tea, 1 small pot; tea, 3½ tins, measuring each about six inches every way; sugar, 180 lumps; arrowroot, 1 tin, about same size as milk-tin; sago, 1 tin—open. These items are to be divided among Stanley, Bonny, Stairs, Nelson, Jephson, and myself. Amongst the extras left over and above these are: cocoa and milk, of which I received 1 tin; also some of the salt given us by Emin, of which each share was ½ lb.

Mr. Stanley now allows five men to each of us white officers; of my five, two carry my tent and poles (the tent is to accommodate two persons); the other three carry my clothes, food, cooking-pots, &c. Stairs has just now arrived with a goat and five chickens, so that we are going to have meat to-night, the first time for a period of 121 days—17$\frac{2}{7}$ weeks, the longest period I have spent without meat since I cut my eye-teeth. The men are now revelling in the wealth of bananas, which abound here.

Mr. Stanley tells me that he lost ten of the Zanzibaris, whom he had brought back to Yambuya, from arrow-wounds. He also believes that many similar cases were saved by the use of hypodermic injections of ammonium carbonate, the properties of which I had many times tried for bites of reptiles, &c.

We have handed over all the chickens and other meat to Nelson; as he is the best cook, and is invariably asked to prepare the chosen bits, such as donkeys' tongues, &c., &c. No member of the Expedition can approach him in this department! His rule is a quarter of an hour per pound—for either a "roast," a "boil," or a stew.

I omitted to mention that Bonny brought me four letters—one from home; another was a bill from the British Medical

Association for £1 7*s.* 6*d.*—it is hardly necessary to say that, as neither cheque-book nor post-office are available here, the payment of this bill must be deferred till I approach more nearly the centres of civilization; and two others.—[I received no other communication from the British Medical Association till January, 1890, when I was graciously invited by the Council to attend the annual meeting at Birmingham, where, on the 31st of July following, I was granted the gold medal of the Association "For Distinguished Merit" in recognition of my medical services in connection with the Emin Pasha Relief Expedition. The honour thus conferred, and the cordial reception accorded me by the assembled members of the Association, will always form one of the most pleasing recollections connected with the results of my African travel.] But all this European news is now very old indeed—June and July, 1887.

DEC. 27.—Stairs and Nelson, accompanied by 100 of the strongest of our carriers, went on to the Ituri River; where they will leave the loads, with a small party to protect them. Mr. Stanley, with Bonny and myself, remain here until they return, which will be, we expect, after an interval of seven or eight days. We will then all march on with the loads to the Ituri.

The men got plenty of bananas yesterday, and also on Tuesday last (25th). One of the Manyuema was badly wounded by an arrow. Mr. Stanley and myself have commenced to modify our tents. He has reduced his to four loads. The ammunition is put into his tent for protection from the rain at night. I have cut mine down to one load, including poles and fly; my ridge-pole is of bamboo cane, and the two uprights are thin forked poles, which I had cut in the forest. We have used many pieces of tent-cloth in patching our clothes, making bags for meal, &c.; and also ravelled out some into thread for sewing. It has not been in the least damaged by all the dampness, exposure, and hard usage of the forest. The tent material was supplied by Edgington, of London, and is his own speciality. The canvas had been soaked in a solution of copper sulphate, and was thereby protected from rotting. I do not think that it could have undergone a severer test of its durability than that offered by its African existence.

[I may add here that these tents remained thoroughly good and strong to the end of the Expedition. They had been used every day, both in the forest and on the plain. The canvas was a light material of a green colour; and formed a restful object for the eye to turn to when wearied by the glare of the tropical sun.]

DEC. 28.—I continued the cutting and sewing of my tent; Mr. Stanley is also hard at work remodelling his. The only great factor of delay in this procedure is that caused by the want of good needles.

DEC. 29.—Bonny went off to-day, with a party of about forty men, to fetch bananas. Mr. Stanley has cut out a new coat for me: he is undoubtedly the better tailor, by far, of the two.

In the evening, I became conscious of the existence of a very bad smell about my tent. I went sniffing about in the bush, in the rear of the tent; and soon came upon two human bodies, in an advanced stage of decomposition. They were natives, who had fallen victims to the horrors of starvation.

DEC. 30.—Bonny and party returned with a substantial supply of bananas.

DEC. 31.—Bonny is rather reserved, although he tells us how many things that went wrong at Yambuya were done against his advice, and *vice versâ*. He certainly shows that a great spleen existed amongst all the officers who were there, although he appears not to feel any such himself. Barttelot and Jameson, I think, were always friends. He is the only European remaining from the wreck; and, certainly, he must have been placed in difficult positions, which he seems to have got out of with credit.

JAN. 1, 1889.—New Year's Day! A happy New Year to all at home! For my part, I only add a sincere wish that I may never spend another in this blessed country. I am not at all tired of the Expedition; but I do most thoroughly detest this going backwards and forwards in the forest, and the sitting down periodically to farm for some weeks or months at a time—just to get strong, and move on again. I would like to be always on the move, and doing something more active; as it would be so much more healthy, and not so doleful and demoralising as the stagnant life which we have been leading.

I went to hunt for food to-day, to a distance of about six miles, accompanied by a party of men and women. We were

attacked by the natives, and had to fire about fifty shots before we succeeded in driving them away.

The last year has been very eventful to all of us. Of the thirteen Europeans who started with the Expedition, six are now here present, one is with Emin Pasha, one has been murdered, four have returned down the Congo, and one never came up. Of the two Syrian interpreters, one is dead, and the other has been sent home.

> "Of those, and such like things for shift,
> We think, instead of New Year's gift."

JAN. 2.—We marched a few miles yesterday, and slept in a village last night. I ate four bananas for my New Year's dinner; and got back to Mr. Stanley's camp, with food, at 10.30 A.M. to-day. Shortly after my arrival, the camp was startled by a loud shriek in the forest close by; a few men at once fell in with their Remingtons. My boy handed me my Winchester, and I immediately accompanied them to the spot from which the alarm proceeded—a movement which occupied but two minutes or so. I there found a Nubian wounded in six places by iron-headed arrows; four of them were impacted in the bones of the vertebral column. As is usual with these men, he had foolishly gone a few yards into the forest away from the precincts of the camp, and neglected the precaution of bringing his rifle with him.

After much trouble, I succeeded in removing four of the arrows: they had penetrated the bone deeply, and the iron heads had been so turned and twisted by the resistance offered by the latter, as to be hooked into its substance in such a way as to give them an extremely firm hold. So strongly were they fixed in the bone, that I almost lifted him off the ground when removing each arrow-head, a process which I effected with the aid of our strong forceps. These arrows are so made that the shaft comes away from the head on the least pull, and leaves the latter wherever it may be attached. Three of the arrows are barbed, and designed so ingeniously to catch in the flesh, that I was obliged to use the scalpel freely in their extraction. I also employed two grooved directors, which I slipped over the barbs, so as to prevent them catching in and tearing the flesh as they came away. Two of the arrow-heads still remain embedded in the man's body: they had penetrated

too deeply to be removed by any justifiable operation. One was in the thorax, the other in the abdomen. [I afterwards removed them and the man recovered completely.]

The natives are always lurking in the bush around our camps; and a man going out imprudently without his rifle, for so necessary a purpose as that of collecting firewood, and having no comrade on the alert, is certain to be attacked by these wretches, who are continually on the look-out for a victim.

JAN. 3.—Bonny went off to-day with a party, to search for bananas. Our Zanzibaris and Manyuema contingent, as usual, are very unsanitary in their habits, and will not be improved in this particular, say what we will to them; the result is, that our camp is already getting into a very foul condition.

About fifty-seven men returned to-day—from Stairs' camp—to help us on with the loads. They brought us two goats; the first good specimens of this animal I have seen for a long interval.

JAN. 4.—On Bonny's arrival we all left the camp; and marched on for about five miles.

The wounded Nubian is able to walk, and is actually doing well. I forgot to mention that when I found him, immediately after being hit with the arrows, I gave him, with as little delay as possible, a hypodermic injection, consisting of a watery solution of 10 grains of ammonium carbonate, as it is a favourite treatment in cases of snake-bite, and Mr. Stanley and Bonny speak well of it as a remedy in cases of poisoned arrow-wounds.

JAN. 5.—We marched about eleven miles to-day. Kibbo-bora, the second Manyuema chief, remained behind with his brother, who was very sick: there were three invalid Zanzibaris with him, and five loads are under his charge. They had moved out of camp; but evaded the rear-guard by creeping into the bush, and returning to the camp. A sick Zanzibari takes no trouble about himself; in fact, *he does not want to recover*. This seems strange, but it is no less true. This indifference to their own welfare is very annoying, and is very characteristic of the Zanzibaris.

JAN. 6.—We marched about eight miles to-day, and reached an old camp, where we found plenty of bananas. I was on rear-guard, so was late in getting into camp, as I had been delayed

by the sick: one of whom I was obliged to have carried. The smell of the huge gangrenous ulcers is something dreadful: especially for those on rear-guard; it actually lingers in the forest, long behind the march, so that one can track an ulcer here through the bush, as in a drag-hunt at home. I should not be surprised if the smell caused a plague to break out among us. I often wonder how the wretched beings can move along with masses of dead bone protruding from their huge sores: it is a mystery to me that numbers of them do not commit suicide, for they can always procure a rifle and a bullet from one of their comrades.

Mr. Stanley held a shauri to-day: it was decided to send back Bonny to pick up the five loads which Kibbo-bora left behind, when he evaded us to stay with his dying brother.

JAN. 7.—Among the Manyuema contingent are very many women, who carry loads as heavy as those of the men, and do it quite as well. Several of them are extremely handsome, especially Mrs. Kibbo-bora No. 1. They are of light-brown colour, with small hands and feet, pretty brown eyes, long eyebrows and eyelashes, thin nose and thin lips, small ears, short curly hair, and high forehead. They walk very upright; the general contour of their figures is very fine, and their movements are graceful. They are of a very cheery and good-natured disposition, and are quite superior to the males of the tribe. Their dress is now reduced to a fringe or veil suspended from the waist: some of them use a handkerchief, which is worn around the head—twisted into a circular coil, and used to prevent the load from pressing directly on the vertex. A few have a handkerchief or two thrown over their shoulders, others do not dress so extravagantly; invariably a belt of some sort is worn—sometimes a vine or rope tied behind in a primitive bow—others are as nude and as well-proportioned as their white sisters who are artistically represented on the walls of the Royal Academy.

Our carriers never allow a load to touch the head directly. They make a small circular pad (with a hole in the centre), prepared from bark-cloth or grass; this they judiciously place between the top of the head and the box.

We marched early. As I was on rear-guard again, I was obliged to proceed very slowly, for the rear of the column has just enough life to move, but by no means sufficient energy to

PIGMY DAMSEL CHANGING HER DRESS. 13

push on. It was late in the day when I reached Mr. Stanley's luncheon place, so I camped there for the night. Bonny soon came up with Kibbo-bora and party; they marched on to overtake Mr. Stanley. Kibbo-bora told me that he had left his brother on the road to die; although he might have carried him. Such is African affection! I sent out a few men, who brought in plenty of bananas; some on the trees are now ripe.

I feel quite sick, as the stench from the sick and ulcerated Zanzibaris is absolutely pestilential. They have to be driven in the evening to wash; and at night we are all obliged to sleep in a narrow enclosure, surrounded by a boma for protection against the natives and wild beasts. The result is that we are all thoroughly saturated with the emanations from the sloughing sores.

JAN. 8.—I marched early, and, at luncheon-time, reached Mr. Stanley's camp at Mandé. I found that, on halting for the day, he had sent on twenty men with loads to Stairs and Nelson, getting back twenty empty-handed men in return: these he sent back next day to pick up our helpless invalids who had been left on the road.

He told me that when the men had remained away eight days collecting food, during his stay at that awful Starvation Camp near the Ituri (before reaching Fort Bodo on his return from Yambuya)—he followed them, bringing his revolver and a full dose of poison, to destroy himself with, in case he could not find them. He had never been in such a state of despair on any African expedition.

JAN. 9.—We marched early to-day, and reached Stairs' camp, which was situated close to the Ituri, at the bottom of Mandé, from which we first saw the long wished for plain. One peak of this hill has been baptised "Mount Pisgah" by Mr. Stanley, because it was from it that he got the first glimpse of the "promised land." We crossed the river in canoes, which had been seized by Stairs; and camped in an open spot, situated at the top of a hill, and about half a mile from the river. There is no water nearer than the river, which is the only drawback to our otherwise desirable position. Most of the sick are to be left here. The place is called "Kandekoré."

CHAPTER XIX.

OUR SICK CAMP AT KANDEKORÉ.

We form a "Convalescent Home" for the sick at Kandekoré on the borders of the plain—Mr. Stanley lectures Stairs and myself about the men's condition—Commencement of the third march to Lake Albert—The surroundings of our hospital—We build new huts—The Zanzibaris recognize the value of proper medical treatment—The invalids come to me for their medicine—Failure of Uledi to find the sick who had been left on the road—Completion of our huts—Effect of recurring nocturnal chills—We kill some goats for the invalids' benefit—Satisfactory progress of the sick—Native forms of treating ulcers employed by our Zanzibaris—A primitive form of *massage* used for aching limbs—Scarification employed for headache and synovitis—Demoralising effect of sickness on the men—An attack of bilious remittent fever prevents my attention to professional duties—Spread of disease caused by flies—Death of Mohammed Dean from rapid gangrene of the foot—Another instance of Zanzibari "truthfulness"—I recover from my fever attack—The last of my chloroform—Theft of goats by a Zanzibari boy—Some cases of gastro-intestinal catarrh, the result of prolonged exposure to all weathers—My African experience of this latter complaint, also of cholera in the Egyptian Soudan—Burroughs & Wellcome's tabloids, a convenient medicine—The tabloid system should be adopted on service abroad and at home by the Army Medical Staff—A death from dysentery—Mortality at our camp since Mr. Stanley's departure.

JAN. 10.—All the men were fallen in to-day and inspected. Men who were declared "unfit" are to be left here, so that this is to form a sort of "Convalescent Home." Most of them are incapacitated by ulcers. Eighty-seven Zanzibaris, nine Soudanese, twenty Manyuema, and twenty Mahdi men have been told off to remain; besides Stairs, myself, and Nelson, (who has a bad ulcer, and is unable to march, although he is anxious to go on). I told Mr. Stanley that he would break down if allowed to proceed, and he has acted on my suggestion. I am always left at the standing camps to look after the sick; although I am thoroughly "fit," and have never been carried since the start.

Mr. Stanley called Stairs and myself into his tent last night, and gave us a long lecture—he frequently lectures us—telling us of the great importance of looking well after

the men, and getting them into health and good condition. During the discourse he told us that "the path of duty is the way to glory," and that "there is a tide in the affairs of men which taken at the flood leads on to fortune." He also mentioned that there was an officer with him on the Expedition who had this opportunity, &c., &c., &c. We did not know to whom he referred, but drew our own conclusions. He went on to say that we are not going to bring Emin Pasha away; our object will be to give him ammunition as relief; that as we have so few men left we can barely drive through to Zanzibar by ourselves, without taking up the additional trouble and responsibility of looking after Emin and his people. We have but 219 Zanzibaris living now, and a very large proportion of this number are utterly "unfit."

JAN. 11.—Mr. Stanley is again off for the Albert Nyanza to-day, accompanied by Bonny, and the more vigorous of the Zanzibaris, Nubians, and Manyuema. This is the *third* time our leader has gone to the lake for Emin Pasha. It is six good marches off; but he will take a longer time than this, as he goes slowly, and will make enquiries at Mazamboni's, and at Kavalli's, about Emin and Jephson. He will travel very cautiously: he has twenty-one men, and eleven chiefs, employed as scouts; and who, accordingly, do not carry loads. We do not know what to think of the Pasha and Jephson; the former must have completely lost control over his men, otherwise he would have met us with his steamers at the south end of the Lake, when Mr. Stanley got there in December, 1887—arriving one day before his appointed time. His first battalion has been in a state of mutiny for years, and the men have made many attempts to make him a prisoner. When we were at the Lake (April and May last) we saw quite enough to indicate how things stood, in the way in which he implored his officers, to convince us of his want of control.

Our camp here is really a large hospital; Stairs is in command of the Camp. Almost every man here is under treatment; some of the worst cases have to be fed as they lie on their backs, for they are too weak to sit up. They are reduced to integument and bone, by prolonged starvation—a very sickening sight! I have observed among these cases of progressive inanition, that so long as the gluteal region retains its rotundity there is no danger; but it is remarkable—indeed.

absolutely diagnostic—that, as soon as it begins to flatten, the individual at once breaks down.

This is the site of an old village; we found an enormous quantity of tobacco—prepared, and ready to be smoked. We must fortify the place, as we are sure to be obliged to remain for at least a month. There are plenty of bananas about; and, perhaps, an occasional goat or chicken. I feel it is very rough being obliged to remain here, just in sight of the plain, and tied up to so large a number of helpless individuals, who are entirely unable to go about. Nelson, poor chap, is unable to march at present.

Stairs has the men collecting wood, &c., for the construction of their huts. We are at present living in tents, but will get into huts later on, when the men have all been made comfortable. The men's huts are to be arranged so as to surround a square. Each has a boarded back, of about five feet in height, placed as a protection against arrows in case of an attack by the natives. The roof slopes to the front so that the door is very low.

It is curious to observe how the Zanzibaris have been educated by experience to recognise the value of proper medical treatment. When we started on this expedition, the men all used their own medicinal remedies, which they prepared from leaves, &c.; but now not one of them thinks of using such preparations, although they stuck to them tenaciously enough for a year or so. Everyone—who is able to walk—comes regularly, morning and evening, at the appointed hour, to receive professional attention. My chief—a fine, tall, dark Zanzibari named Hari—comes out of his hut, morning and evening, at the stated time, pulls up his scanty shirt, and, while scratching his abdomen, calls out, "*Dowr, dowr, dowr*": this brings up all invalids for their medicine, &c. As a little colouring matter goes a very long way in improving the appearance of a solution, I often employ mixtures of red, green, black, or other colour, for their medicines. I have found that a watery solution of potassium permanganate, which gives a beautiful purple, has held its own as the greatest popular favourite. This is peculiarly fortunate, as it is one of the best antiseptic and deodorising preparations I have.

It is somewhat comical to watch the men as they come out

of their huts in the early morning; everyone, without exception, is employed in scratching his body. If counter-irritation applied to the cutaneous surface were an efficient remedy against internal disease, the members of the E. P. R. Expedition should be among the healthiest men alive.

JAN. 12.—We had a goat killed for the sick, last night, and gave it all to the poor creatures, although the officers want a taste of meat very badly indeed. We had soup prepared, and gave all the worst cases soup and meat last night, and repeated the same twice to-day. Some of these men are sure to die very soon.

Uledi, who was sent back with a party of men to bring up the sick who had been left on the road, returned on Thursday (10th inst.), saying that he had failed to find any. I believe that he never went further than the last camp. However if his story is true, the four Zanzibaris and eight Manyuema must have been killed by the natives. This is, however, quite probable too, as I saw some wild natives hanging about our line of march, and evidently very willing to attack us if they saw a fair opportunity.

JAN. 13.—Mr. Stanley is to arrive at Mazamboni's to-day. when he will probably hear the first authentic news of Emin Pasha's movements. Our convalescent camp here is by degrees getting more into ship-shape. All the men's huts have been finished; the boma is also completed, and, on to-morrow, the officers' houses will be commenced. The construction, of course, has been rather hasty; a house, in which some of the invalids were sleeping, voluntarily descended to the ground this morning; and if Stairs had not been so meritoriously prompt in removing the three disabled men who were inside, they would all have been smothered in the *débris*.

We sent a party for Indian corn to-day, so that we may provide meal for the sick. I suspected that my heart had by this time become as hard as a stone: yet I displayed some symptoms of softness to-day, for I distributed part of my small stock of European provisions (butter, milk, salt and rice) to my poor emaciated patients.

It is very hot here in the middle of the day, but the nights are sometimes extremely cold. These recurring nocturnal chills are always supplying me with a number of cases of gastro-intestinal catarrh, which, after the ulcers, have proved

the most formidable pathological product of the E. P. R. Expedition.

JAN. 14.—We had another small goat killed to-day, and gave it to the sick. Both Stairs and Nelson, as well as myself, fully recognise the importance of keeping these poor men alive, and getting them into working condition, as we have barely enough men on the Expedition now to drive through to Zanzibar. We can never face that forest again! By mixing a few cups of Indian meal with the water in which the goat was stewed, it helps to make the sick man's meal more substantial still. Four of the largest goats would not supply the sick with more than one good meal each.

Stairs is very busy with our enclosure, and has almost completed two watch-towers. Nelson is still on his back—his feet are swollen with œdematous infiltration. The ulcers of the Zanzibaris are doing fairly well, in spite of the incorrigibly filthy habits of these men. They are, of course, very feeble; and unable to get often to the river, for the frequent washings which they so much require: the Manyuema are much dirtier still than the Zanzibaris. The intense and sickening stench which radiated from each of these large foul ulcers is diminishing a good deal—with the frequent use of carbolic acid, permanganate of potassium, and nitrate of silver, also the general cleanliness which our state of rest here allows me to enforce. I have applied pure carbolic acid to each of the gangrenous surfaces with very good effect.

Among the native forms of treatment which the Zanzibaris employ for their ulcers, is one of rubbing a copper ring on a stone till a layer of metallic dust has been filed off; this is in turn rubbed off the stone by the application of a wet rag, by means of which it is then applied to the surface of the ulcer. It certainly does some good; it acts as a mild caustic, and brings down the unhealthy granulations; but the worst of their application of this remedy is that they don't know when to stop; but go on rubbing and burning the surface, till a deep depression is formed. Their favourite application to small ulcers, however, is a paste which they make of certain leaves: when crushed and thoroughly mashed up, they plaster the pulp on the raw surface, and allow it to dry. It sticks pretty firmly, and forms a protective shield; which prevents the sore from being hurt from without—by the striking of twigs

and grasses, and other such things with which they come in contact. It becomes really very hard, and gives a good deal of mechanical protection; but does harm in the end—by confining the products of ulceration, and preventing its escape. When they complain of rheumatic pains, as they pretty often do, they lie down flat on the ground, and get their comrades to tramp on their bodies, bruising it in all directions with their feet. When their limbs ache, they use a primitive form of *massage* by kneading and pressure; but as they do not know the position of the various anatomical structures, there is usually a good deal of mechanical energy wasted without much benefit. Whenever they suffer from headache or any local inflammatory action in any part of the body (*e.g.*, synovitis) they cup each other for it, using a primitive form of the scarification which is sometimes employed for local depletion on our European continent. They use, for this purpose, a small horn; with a narrow opening at the tapering end. Around the latter they arrange an indiarubber material which they collect from one of the forest creepers. They place the large (open) end of the horn on the painful spot, exhaust the air by suction through the narrow opening in the other end, and then close the latter—by biting the indiarubber with their teeth. After this "dry cup" has been left on for a minute or two, so as to cause marked cutaneous congestion, it is removed, and a number of small incisions (half a dozen or so) are made through the skin. The horn is then again applied, suction is used, and it is soon filled with blood. This "wet cup" may be used again, so that they deplete as fully as they wish.

JAN. 15.—Stairs has nearly finished the watch-towers. There is a marked improvement in the progress of most of the men; but they are even greater liars than before they became reduced to this broken-down state. Sickness has a very demoralising effect upon them; they put forward their illness as a sufficient excuse for everything that they do wrong, and for all their vile habits; they become quite helpless, as they will do nothing for themselves, even when not quite disabled by weakness; and are continually whining for sympathy and attention. When a Zanzibari has been sick for a long time he invariably develops, exactly like his white brother in Europe, into a *goee-goee*, which means a good-for-nothing grumbler.

JAN. 16.—I have been feeling seedy all day, and fear that fever is coming on. I have also been feeling very chatty, which is an invariable premonitory symptom of fever. Three of our watch-towers are now finished.

JAN. 17.—A small goat was killed to-day. Half of its meat will be given to our sick blacks in the form of soup; the other half goes to us four whites.

I never spent such a time as last night. I had a burning fever, and did not sleep half an hour; the pain in my lumbar region (small of the back) was most excruciating, as it always is during these attacks of fever.

About thirty-five men were supplied with meat and soup to-day. The inner square of the fort was cleared, and the refuse thrown out. The enormous number of ulcers, attract great swarms of flies, which undoubtedly carry the necrobiotic poison about with them, and convey it to the previously unaffected. These detestable winged messengers of evil have a most objectionable *penchant* for alighting on one's face, after returning from the surface of a gangrenous sore; and also of trying to get themselves swallowed with every alternate morsel of our food. We have very few bandages for use, so that we employ such material as bits of old flannel, of shirts, remnants of cloth of all kinds, bits of rag, pieces of bark-cloth, &c., &c.

JAN. 18.—I saw some of the sick this morning, but was too ill to complete my task; so the rest were treated by Nelson and Stairs, who are now specialists in the treatment of African ulcers. I was obliged to go immediately and lie down in my tent; which is a very small one, and situated directly under the scorching sun. I felt wretched, aching all over, and in a very bad temper; I was like a hen on a hot gridiron. It appeared to be a tie in the competition to burn me out—between the roasting sun without, and my own consuming fever within.

Nelson saw the sick for me in the evening, as I was entirely unfit to come out of my den.

JAN. 19.—The men got "roûsa" (a holiday) to-day, as they have all had to work pretty hard since they came here, in the making of their huts, &c. I changed to a hut that was just finished, as it was somewhat cooler, and much more roomy than my tent. These huts are really beautiful to lie in.

They are constructed of beautifully green boughs, and creepers, and leaves, which hang about in careless profusion. The bed has been formed of leaves, grasses, and tops of bushes, and surpasses any spring-bed in luxury. My feverish symptoms are now much aggravated; my body feels as if broken across, and every limb aches. The most intense pain is concentrated in the lower part of my back; my temperature is 104° F. Nothing gives relief except morphine. Small dark ecchymotic patches (petechiæ) have appeared on the skin of the trunk; there is great tenderness over the stomach and liver. Black clotted blood comes from the nose and other passages; the tongue is thickly coated with a dark brown fur. After seeing the sick in the morning, I went to bed, feeling that the man who would kill me quickest was my best friend.

Mohammed Dean, a Nubian, died to-day. He had suffered from rapid gangrene of the foot. Bones, ligaments, muscles, blood-vessels and all were rapidly destroyed—to a level a little above the ankle. It would have been useless—even mischievous—to operate; the sloughing process would have extended to the stump. This has occurred in similar cases in which I was induced to amputate. Fortunately, the unhappy victims of these rapidly destructive ulcers do not suffer much pain from them. The only variety which I have seen give much trouble in that way are those which form over the malleoli (prominence of either ankle). In this position they grow more slowly, they are more regular in outline, and cause a good deal of pain; especially as they are greatly exposed in this position to being rubbed by twigs, grass, leaves, &c., while the poor patient is on the march.

A "ruga-ruga" party was sent off to-day for food. Nelson saw the sick for me both last night and this morning. I take something like 100 grains of quinine in the morning; my temperature then keeps below 102° F. in the afternoon. At 3 P.M. I had an attack of excruciating pain over the hypogastric region. I have hot stupes applied from time to time by means of an old flannel shirt, lent me by Stairs, or by Nelson. I also get hypodermic injections of morphia, which send me off to sleep.

Two of the sick who had remained on the road arrived here to-day. This goes to prove that Uledi and party had never returned all the way for them, although he had been sent by

Mr. Stanley with orders to do so, and had told us on coming back that he had gone the whole way. (Another characteristic instance of Zanzibari truthfulness and affection!) These poor men, in crossing the Ituri river, got into a canoe which drifted them down the stream for half a mile towards a cataract, so that they had an extremely narrow escape with their lives, as they were too weak to paddle, and, of course, too weak to swim.

JAN. 21.—The "ruga-ruga" party returned to-day—with some dried meat, two goats, three chickens, and plenty of good plantains. I am somewhat better to-day. I took 100 grains of quinine this morning, and drank a bottle of Warburg's tincture last night, so that I gave myself a very fair chance of having any malarial poison floating in my tissues and circulation thoroughly neutralised, if within the power of specific medicines to effect this desirable result. I have obtained a partial effect, as my temperature now goes down to 100° F. in the morning. My illness undoubtedly is "bilious remittent fever."

All the sick in camp are improving—doing really well now, as they have the great advantages of rest and fairly good diet. The last of my chloroform was finished to-day. Much of it had evaporated, as the tin in which it was carried became rusty during our long sojourn in the damp forest, and the rust gradually ate its way through the metal; making minute perforations, through which the volatile liquid lost no time in escaping. I have still some cocaine left, by the use of which I will still be able to perform small operations without inflicting pain.

JAN. 22.—I am better to-day, but my head whirls from the effect of the quinine when I stand; I feel quite dizzy, and my ideas are all muddled up and confused: my back and limbs still ache. I can walk about 200 yards—with the help of a stick. My temperature this morning was 101° F.

One of my sick (named Ali Bin Said) stole two goats to-day: a very big one, and a little one. He promptly killed them, and was caught in the act of skinning one. Of course, with characteristic Zanzibari veracity, he there and then vigorously denied having had any hand in the death of either. His denial was not, however, received in evidence, and he was at once treated to "one dozen" with a stout rod, as a remem-

brancer. This same boy Ali has been receiving soup and meat off every goat that was killed since we came here.

JAN. 23.—One Mahdi died last night from sheer exhaustion, caused by the drain from his ulcers. Stairs has commenced the inner fort, which seems to me somewhat too big: but none of us question Stairs' undoubted engineering skill. Nelson has been doing my work since I got ill. The men are putting on flesh, as they are really getting plenty of good, substantial food now. Some, however, had been reduced so low, that months must elapse before they arrive at a condition in which their digestive and assimilative organs will be able to function properly; they are at present composed simply of skin, ligament, and bone. One boy (Muftah) died; the only wonder is that he lived so long, as he had for a considerable time been reduced to a walking skeleton. I have a good many cases on hand still—the result of prolonged exposure to cold nights, rain, and all varieties of damp in that wretched forest. Some of them approach the character of dysentery, but they are more truly of the nature of gastro-intestinal catarrh. Those cases which I had the opportunity of treating early with ipecacuanha, followed by lead and opium, did wonderfully well considering their wretched circumstances and diet. A good many cases were prolonged by the sleeping out at night, as they had not sufficient energy to build huts to shelter themselves and sleep in while on the march.

The prevalence of gastro-intestinal catarrh has, throughout, shared with the sloughing ulcers the distinction of being the most important physical obstacle to the prosperous progress of our Expedition. We have all suffered from it again and again: sometimes very acutely, sometimes less so. Its usual course is simply that of acute catarrh; in most cases modified more or less by occurring in a constitution previously debilitated. Ushered in by febrile disturbance the essential symptoms are: increased number of alvine evacuations, with diminished consistence; large quantities of mucous discharge; borborygmi; tormina; a variable amount of abdominal tenderness—with or without marked tenderness over the gastric and hepatic areas.

In addition to the miasmatic influences which prevail over so large an area of tropical Africa, the great factor in the causation of this great plague has certainly been the rapid

alternation of heats and chills. The symptoms have nearly always been those which must necessarily follow a rapid determination of blood from the suddenly contracted cutaneous vessels towards the very expansible vessels of the alimentary tract—passing through acute hyperæmia to a widespread stasis. The establishment of the latter condition prevented the discharge from the intestinal surface from being so copious as to lead to sudden collapse; and, in this respect, it formed a striking contrast to the phenomena of the rapid and copious evacuations of cholera, followed by the appalling collapse which have been so vividly stamped on my recollection by my Egyptian experiences. This difference also accounts for the fact that our cases of gastro-intestinal catarrh were found fairly amenable to treatment, when the surrounding circumstances were such as to allow the latter a fair trial; while the inefficacy of treatment in the progress of a rapid case of algide cholera makes the medical man feel more paralytically incapable than in dealing with any acute disease I have met. The terrible disregard shown by the symptoms of this disease to all varieties of treatment have been indelibly impressed on my memory by my experience during the epidemic of 1883, when the recoveries of our cases at Helouan amounted to only 29·03 of the total number attacked, in spite of the untiring use of every remedy which had any reputation. One treatment which I was induced to adopt was the intra-venous injection of the following solution:—

Sodium chloride	6 grammes.	
„ carbonate	1 „	
Water	1000 „	(1 litre).

This was injected—at a temperature of 104° F.—into the median basilic vein, immediately above the bend of the elbow; the patient, who had been lying in a state of extreme collapse before the operation, did certainly rally on receiving the injection, and recovered sufficiently to be able to articulate distinctly, but the improvement was a transitory one: collapse again supervened, and the fatal issue occurred in a few hours.

Without attempting to discuss the efficacy of the presence of the "comma" bacillus in the production of cholera, I may mention the strong evidence of the predisposing influence of the previous state of health, as furnished by the following facts, and also the extreme mortality amongst the attendants.

Of the number of persons who were attacked by cholera at the camp at Helouan :—

2·63 per cent. of the previously healthy were attacked;
9·34 „ „ convalescents from some other form of disease;
11·76 „ „ Medical Staff Corps (previously healthy).

Age also appeared to exert some predisposing influence :—

Average age of persons attacked was	.	.	26·3 years.
„ „ fatal cases	. .	. .	26·7 „
„ „ recoveries	. .	. .	25·2 „

While looking back on my experience of this terrible Egyptian epidemic, it is somewhat comforting to reflect that with all the horrors and hardships of our Expedition, I have been able to alleviate the sufferings of my gastro-intestinal cases more effectively than I could those of my cholera patients while within reach of an unlimited supply of medicines.

JAN. 24.—I did my work last evening, and have now commenced to see the sick as usual. My chief Hari calls out *dowr, dowr, dowr,* morning and evening; the sick then come crowding around me as I sit in my chair and dole out Burroughs and Welcome's *tabloids,* which are superior to any form of medicine that I have tried, not only for efficiency and constancy of strength—as I have repeatedly noticed—but also for extreme convenience of transport and rapid dispensing.

I hope that the medical department of Her Majesty's services may see their way to adopt this form of medicine. I can say with confidence—from the experience of over ten years in the Medical Staff of the army, both at home and abroad, in peace and war, including this Expedition—that one man could carry a larger quantity and of more efficient medicine in the tabloid form than ten can manage in the present cumbersome system used by the services. If the tabloid system were only adopted on service abroad, see what a difference of transport and space there would be. These tabloids are soluble and the doses accurate: why still patronise the pill with its indefinable charm, which becomes concrete and insoluble—and, therefore, useless—when kept a long time, and the dignified antiquity of those fluids and powders, which are difficult to pack and to dispense; but the most convincing ground of appeal to the

authorities must be expenditure, for the estimates would be lessened—as one medical officer could do the work of two, and dispensers be themselves almost entirely dispensed with.

A heavy shower of rain fell last night. Hassan Sadallah, a Zanzibari, died to-day. The fatal result was due to an acute attack of dysentery; he had received a chill, and then surfeited himself with ripe bananas, having previously eaten some meat, which was, I believe, partially decomposed.

Half a goat was given to the sick to-day, and carefully distributed in the shape of soup and meat.

JAN. 25.—A foraging party went out this morning. It is now a fortnight since Mr. Stanley left here for the Lake. Khamis Songoro, another victim of chronic starvation, died to-day. This is, I think, the last Zanzibari invalid who will die at this camp. Since Mr. Stanley's departure the mortality has included three Zanzibaris, two Manyuema, one Nubian, and one Mahdi; seven in all.

CHAPTER XX.

THE STORY OF THE REAR COLUMN.

Lieutenant Stairs tries the Maxim machine-gun—Jamming of a Gardiner gun at the battle of Abu Klea—Usefulness of our Winchesters, compared to other rifles—Memoranda of the events which occurred at Yambuya as obtained by me from Mr. Bonny—The Major makes repeated journeys to Stanley Falls—Tippu Tib's promised supply of carriers—The remnant of the rear column found by Mr. Stanley at Banalya—Unnecessary delay of the rear column in following the steps of the advance column—The march to Banalya—Barttelot shot dead by a Manyuema—Jameson goes down the Congo to Bangala—Bonny left in sole command—My comment on the foregoing memoranda—A feverish locality—The most powerful enemy in Africa—A foraging party disobeys orders—I exchange a pair of shoes for a coat—Filthy condition of our Manyuema—Ants are good scavengers, but otherwise a terrible annoyance—Numerical strength of the Expedition: the rear column almost exterminated—Our total loss of men—Native trick of catching small fish—Progress of our sick—A native dwarf scared by a leopard—Foraging expeditions for goats and fowls—Arrival of Chief Rashid and men to escort us to the Lake—Mr. Stanley receives letters from Jephson and Emin Pasha—Their imprisonment at Dufflé—Rebellion in the Equatorial Province—Dance by Chief Katto and his men—We quit our camp at Kandekoré and arrive at a village on the plains—Reception at Mazamboni's—Description of the village and its surroundings—Kabba-Rega's raids on the Wazamboni—Familiarity of the people—The cattle of the plains—We camp at Mpinga's village.

JAN. 26.—Nelson had a severe attack of fever this evening. Stairs tried the Maxim gun, it did not work satisfactorily—like all machine-guns, which are good in theory, but do not yet appear to have been brought up to a fair standard of reliability in practice. At the battle of Abu Klea, I was medical officer in charge of the naval brigade under Lord Charles Beresford; on that occasion owing to the jamming of the Gardiner gun—at the exact moment when it was most required—just as the Arabs rushed on the dismounted square, two officers were killed, and the other two, of the four naval officers present, were wounded. One defect in the machinery of the Maxim gun is that the canvas-belt contracts when wet, and it becomes very difficult to introduce the cartridges,

Another objectionable feature is that the tin, which contains the water for keeping the barrel cool, is detachable, so that it may be lost. It should be permanently fixed; for if lost by theft, or accident, the barrel when in use would soon get so hot from rapid firing that the gun would become useless. With the exception of these drawbacks, it seems to be much the best of the machine-guns, as it is certainly the lightest, and can be carried by four men without difficulty, even during forced marching. Our other weapons were Remingtons, Winchesters, and revolvers. The Remington seems to me superior to the Martini-Henry rifle, at least for our purposes, for it never gets out of order unless some of the machinery is lost, and it is very easily cleaned. In the Relief Expedition for Gordon the cartridges constantly jammed in the latter rifle —a great source of danger. Our Winchesters carry fifteen rounds, and are invaluable up to 300 yards; they are especially useful at short distances in the forest.

When talking to the men of Hassan Sadallah's company concerning his death, they denied his having eaten any decomposed meat; still, on making the usual Saturday's sanitary inspection of the huts to-day, I found portions of half-dried, half-decomposed meat in several of their huts.

I jotted down to-day the memoranda of the events which had occurred at Yambuya, as I obtained them from Bonny. They are as follows :—

Ward and Bonny, who had been left at Bolobo, with 125 men, in June, 1887, arrived in the steamship *Stanley* at Yambuya, on the 14th of August of the same year. But three of the 125 men had died, and two were sick at this time. Troup, who arrived by the same steamer, brought with him a few stragglers who had been left behind (sick) on the march to Stanley Pool. This contingent made Bonny's party up to 131 men.

On the 15th of August (1887) firing was heard on the river, above Yambuya; this was the announcement of the approach of a party of Tippu-Tib's ivory-hunters—numbering about 160. Some of the Zanzibaris left the fort, went up the river, and conducted this party to Yambuya. Some of these hunters accompanied Jameson to Stanley Falls, whither he proceeded in order to have an interview with Tippu-Tib about the carriers who were required. The latter promised 600 carriers, who would

be ready in ten days after Jameson's arrival at Stanley Falls. Jameson returned to Yambuya and assured them there that the carriers would be ready, according to Tippu-Tib's promise. No carriers, however, arrived at the appointed time; and the Arabs, who were staying at Yambuya, said that Tippu-Tib had gone to settle a dispute at the Lumami River, and would return with the carriers in a week or two. Time passed fruitlessly away; the end of September came, but still no carriers: so Barttelot started with Troup for Stanley Falls, where they remained till the end of October. Tippu-Tib by this time had admitted that he could not get the carriers unless he went in person to Kasongo to fetch them—going there and returning with the carriers would occupy a period of forty-three days. Tippu-Tib did leave for Kasongo at last (about the 1st of November). Month after month then passed without any news of Tippu-Tib or the carriers, while numerous vague excuses were being given for their absence. Accordingly Barttelot and Jameson again went to Stanley Falls (16th Feb., 1888), and there it was decided that Jameson should start after Tippu-Tib to Kasongo, which was situated several hundred miles up the Congo. Jameson then started at once, accompanied by Assad Farran (interpreter), his gun-bearer, and some Manyuema guides. He returned to Yambuya on the 5th or 6th of June following, with Tippu-Tib and 430 carriers. In the meantime, Barttelot had again gone from Yambuya to Stanley Falls (on the 25th of March). On the 28th of March, Ward, after eight months at Yambuya, had been sent with despatches for the Emin Pasha Relief Committee to the coast (St. Paul de Loanda, where the cable terminates) about 2000 miles away. So that up to this date, which was about twelve months from that of our landing at Yambuya, Barttelot had travelled, to and fro, about 800 miles. Jameson had done the same journey twice, and also had gone to Kasongo and back (1200 miles in all); Troup has once been to Stanley Falls and back (400 miles); Ward has been down, or is on his way down, to the coast, and is to return—a trip of 2000 miles to send a telegram, and the same distance back: if all this work expended in fruitless flitting about had been utilised by advancing even a mile a-day on our track, it would at least have given some healthy exercise to the men, and would be assisting the Expedition. A letter was subsequently

sent by Barttelot to the chief of the Bangala station, advising him to stop Ward, coming up with his despatches at that station—for some unaccountable reason.

On the 11th of June, 1888, when the Advance Column, after bringing relief to Emin was at Fort Bodo on its way back to find the Rear Column, Barttelot, Jameson, and Bonny left Yambuya with 436 loads—which were now reduced to half their original weight—to follow up Stanley's track. This caravan consisted of—

	Men.	Boys.
Zanzibaris	108	8
Nubians	22	0
Somalis	1	0

making a total of 139—the remnant of the original 271 who had been left at Yambuya. So that in somewhat less than a year 132, or nearly half of the total number left, had either died or deserted. Added to this number were now 430 Manyuema, making a total of 569 (approximately). When leaving Yambuya, thirty-three of the Zanzibaris, who were unable to march from sickness and debility, were left behind with Tippu-Tib's people; and those loads which were considered least necessary were sent down the river to Bangala. Several loads (of cloth, &c.) were given to Tippu-Tib, as part payment for the service of the carriers. Goods of the value of £120 sterling were given to Muini Soumai, one of Tippu-Tib's chiefs, who accompanied the caravan in charge of the Manyuema; this was in part payment of the £1000 which it was arranged that he should receive. These 436 half-loads should have been carried by 218 men, according to our original arrangements in marching; by doing this, the carriers would only be carrying the same weight as those of the Advance Column. So that it can be seen that the men of the Rear Column had comparatively light work now, as they were provided with such an abundance of carriers. If the white men had left Yambuya when the garrison became augmented by the 125 men (and two Europeans and boys) on the arrival of the S.S. *Stanley*, on the 14th of August, 1887, there were then 271 men and officers belonging to the Expedition available in the Yambuya camp, and they could have carried the same quantity of loads (218 full loads) for which they afterwards utilised 436 carriers. So that they had a sufficient number of carriers then, and could have started almost directly after

the Advance Column; and, even granting that a third more were down with disease, or debility, they could have made two marches instead of one with ease, without all this expenditure of time and trouble and life. This delay was, obviously, a great error of judgment; this is demonstrated by the result that the monotony of camp life, the same food day after day, and want of exercise performed for some definite object, had within the year reduced the entire force by fifty per cent. of its strength, and had left the residue shattered by disease and *ennui*. Troup was invalided home on the 8th or 9th of June, so that he had not been quite a year in the camp. He was sent down river in the steamship *A. I. A.*, which had come up river with thirty-five men, who accompanied Ward to Bangala. The caravan marched on from the 11th till the 23rd of June—almost simultaneously with Stanley's start from Fort Bodo, the latter leaving five days later (on the 16th). They then lost the road, twenty-two Zanzibaris had already deserted since they started on the 11th, and Barttelot left Bonny with the Zanzibaris in a village, with orders to find Stanley's road, while he himself started for Stanley Falls to see Tippu-Tib, and try to put a stop to the desertion. Jameson was following up with the Manyuema, some few days in the rear. He reached Bonny on the 28th of June, returning on the 29th, and bringing up all the Manyuema to camp on the 30th. On the 1st of July, Jameson, Bonny, and the entire caravan moved on to a village one day a-head, where there was plenty of food. Muini Soumai remained behind with some few loads, which they could not have carried up, owing to the frequent and increasing desertions. Jameson returned with some men and brought up Muini Soumai and loads to the above village on the 5th of July. On the 8th of July the caravan marched; on the 11th it struck Stanley's road on the river-bank; on the 15th it had reached Banalya, a native village occupied by Manyuema Arabs; and, by the 17th, the entire column had arrived there, with the exception of Jameson and nine men, who had remained behind on the road to look after the surplus loads. On the 16th Bonny sent back twenty-five men to assist Jameson to bring on these loads; the latter moved on and arrived at Banalya on the 22nd—the 17th was the day on which Barttelot arrived at Banalya, having completed another march of 500 miles; which, added to his former trips to the

Falls, makes it up to 1300 miles. On the 18th (the day after his arrival), Barttelot had a dispute with Abdullah, one of Tippu-Tib's chiefs, resident at Banalya village; this was in reference to six carriers. About 5 A.M. on the 19th, Barttelot was shot dead by a Manyuema, who had aimed at him through a loop-hole in the wall of a hut. Death was instantaneous, as the slugs had passed through the left breast, and penetrated the heart. Bonny was immediately on the spot, and found life extinct; the body was lying, in the prone position, in a pool of blood, with the right hand holding a revolver across his loins. The Manyuema had made themselves extremely disagreeable to Barttelot's irritable nature, by constantly firing off their rifles in camp without any apparent reason for doing so; the women also annoyed him, by singing at all hours of the day and night. This is their ordinary custom, but they no doubt exaggerated these annoyances, as they certainly did not like Barttelot. The immediate exciting cause of the murder was said to be a threat to strike a woman who was singing at this early hour in the morning.

Bonny then despatched messengers for Jameson, who arrived on the 22nd. The loads came into camp on the 23rd. On the 24th of July, Jameson left Banalya for Stanley Falls to see about having the murderer punished—also to procure more carriers, as nearly all the Manyuema had run away after the murder had been committed. In this general stampede too, they managed to carry off many of the loads, and a great many more were thrown away in the bush; most of these Bonny had collected and brought into camp. Bonny received a letter from Jameson saying that he was going to continue his journey down to Bangala—to see the despatches from the committee, cable home the latest news, bring up Ward, get carriers from Tippu-Tib, return to Banalya, and then continue the march. In the meantime, Bonny was to remain at Banalya, and look after the men and goods that were left.

On the 17th of August (1888), exactly two months after he had left Fort Bodo, Mr. Stanley arrived at Banalya, when Bonny handed him over the small supply of goods that were left, with seventy-one Zanzibaris, twenty-two Soudanese, and one Somali,—the remnant left of the original 271 in the Rear Column,—and one European out of five.

In a letter from Barttelot to Bonny—dated 22nd April, 1888—

he had directed Bonny to take over charge of the Rear Column if anything happened to himself. At this time there was no one else available, Jameson being then away at Kasongo; Ward had gone with despatches to St. Paul de Loando, while Troup was ill in bed, and was eventually invalided home.

Comment on the disastrous condition of the Rear Column is unnecessary, as some of the officers appeared to have been at loggerheads, and were on bad terms with the men. The loads of current money (cloth, beads, &c.) had been greatly reduced in quantity through some error of judgment, therefore some one or all of the officers of the Rear Column must, to a very considerable extent, bear the blame of the disaster; but Barttelot and Jameson cannot be accused of want of zeal—as shown by their active marching—however misdirected. Mr. Stanley may also be blamed for not waiting for the entire force; but the object of the Expedition was to bring relief to Emin, and every day was of vital importance; the loss of Gordon and Khartoum is said to be due to the delay of only three days at Metammeh. I therefore am of opinion that the necessity of an Advance Column to push ahead, was not only obvious, but imperative. Tippu-Tib was certainly a great factor in the disaster; but he should not have been relied upon so much; for when he broke his promise to Stanley he would certainly do so to the officers of the Rear Column. The loss of Barttelot, and the absence of Jameson, have a very depressing effect on all of us in the Advance Column, who, up to this, have worked so hard, suffered so much, and succeeded fairly well. The best feeling has, indeed, always existed between ourselves and our men. Many men in Mr. Stanley's position, having gone through the hardships which he had experienced in the forest, and arriving at Banalya to find the Rear Column so completely wrecked, might well have been pardoned going down the Congo and back to civilised Europe—and never facing that dismal forest again, after having twice crossed it through so much hardship and privation.

JAN. 27.—Half a goat was distributed among the sick to-day. This seems to be a feverish locality, as all the men have had bad attacks of it since we came here. My Pigmy girl has also had two attacks. I believe that the great cause here is the scorching heat to which we are exposed from the direct rays of the sun. We are placed in a broad, open clearing;

and are, accordingly, deprived of the one advantage which the forest, with all its horrors, had always yielded to us—an impenetrable shade from the burning heat. There is no doubt that the most powerful enemy in Africa—for both blacks and whites—is the *direct heat of the sun;* but more especially when followed by *chilling breezes* from any direction.

Very heavy rain fell last night. I got thoroughly drenched, as none of our houses are proof against these terrible tropical showers. Each of these latter is invariably preceded by a violent tornado.

JAN. 28.—The foraging-party returned early to-day. They treated us to a long story about how they had gone in the exact direction in which they had been told to go. This was all stoutly verified by the chief in charge of the party. Suspecting their veracity, Stairs cross-examined them, and found that they had gone in the very direction that they had been instructed *not* to go, as they had crossed the river close by. They were all fallen in, and Stairs told them that they had broken faith. The wretches must have eaten about twenty goats, as Stairs could certainly account for fifteen, and they brought back but three and a kid. This, although they well knew that we had given goat's meat to the sick upon several occasions when we had denied it to ourselves!

I have given William a pair of almost new shoes of Arab pattern (with pointed, turned-up toes), and made of tanned leather of scarlet colour, which I had given me by the Pasha. This was in exchange for a coat after Mr. Stanley's own pattern, which is made of very light stuff, braided, and buttoned up to the throat. It will have to be altered, as it is very tight across the shoulders.

JAN. 29.—Our Manyuema here are a very filthy lot. Two or three of them will certainly die soon, and this simply because they will not make any effort to cleanse their ulcers, their bodies, or their huts.

The beads, used as money in the part of the country we are coming to, are now being put into the bags, as the boxes are getting broken, and the beads are getting gradually lost.

We killed a goat to-day, half of which we gave to the sick (twenty-four in number), in the shape of both soup and meat.

JAN. 30.—. . . .

JAN. 31.—The central watch-tower was completed to-day.

My boy has been occupied all the morning in burning grasses around the back of my hut to keep off the army corps of ants which swarm over the place. These creatures are good scavengers, but are otherwise a terrible annoyance. If but a fragment of banana, or any other form of eatable, is thrown on the ground when not a single ant is to be seen about the place, there will be thousands of them found converging from all directions in about five minutes. They must be gifted with some extra senses, one would think.

On Mr. Stanley's arrival at Fort Bodo, on returning from Yambuya, he had left with him but thirty-six of the Zanzibaris of the Rear Column, out of the seventy-one which he had found at Banalya on the 17th of August, 1888. Accordingly, the Rear Column has now been almost exterminated; as there remain but thirty-six blacks and one white, of the 271 blacks and whites who had been left at Yambuya in the middle of '87. There are now in the whole Expedition about 200 Zanzibaris, 106 of whom were strong enough to accompany Mr. Stanley from here to the Lake, when he started on the 11th inst. We have lost altogether over 400 Zanzibaris, 46 Nubians, 12 Somalis, about 80 Mahdis, a number of followers which cannot be enumerated; also Barttelot, Jameson, Ward, Troup, and probably Jephson and Emin Pasha. I cannot understand why it is that our leader is so particularly anxious not to bring the Pasha away, but merely to hand him over the ammunition; for, with the comparatively small band of followers which we have now left, it will be difficult to drive through to Zanzibar without a larger force, and by increasing the number, even if the reinforcement consisted of women and children, we would form a more imposing caravan; and its very size would, I think, have the effect of keeping at bay some of the hostile native tribes.

FEB. 1.—The men fell in this morning, and confessed that they had disobeyed orders on the last foraging expedition. They all fell down as a sign of their guilt; but this self-humiliating freak is often performed for little or nothing, so that we whites have learned to take it at its proper value.

FEB. 2.—A goat was killed to-day for the sick. There was a new moon last night. The men got "roûsa" for half the day, to go out and collect bananas. During the several months that we spent at Fort Bodo, and also since we have come to

this convalescent camp, the men have always been excused work on Sundays.

Our men practise their trick of catching small fish in the ponds by throwing in leaves, &c., of a species of Euphorbia. Its presence gives the water an intoxicating influence on the fish, so that they soon come to float on the surface in a state of torpor, and can easily be collected. A plant from which the natives make their salt grows on the water surface of swamps, &c., and is uncommonly like our domestic "house-leek" in appearance.

FEB. 3.—No news from Mr. Stanley yet. I should greatly like to hear of his success (or otherwise) in communicating with Emin. Still I would prefer to stay here for another month, as by the end of that time all the men will, I trust, according to their present rate of progress, be really "fit" again. If, on the other hand, Mr. Stanley were to return here to-morrow, he could not expect them all in good working order; they are far from that as yet.

Stairs went this morning to try and have a shot at some game. He got within 150 yards of some buffalo, but did not see any other variety.

FEB. 4.—. . . .

FEB. 5.—Last night a native Pigmy ran back to the fort in a state of great excitement. She said that a leopard had pounced on her, and caught hold of her shoulder. She was evidently greatly frightened, and was trembling all over; but no marks could be seen. We placed a goat close outside the fort to act as a decoy, so that we might have a chance of a shot at the carnivore if it again displayed aggressive signs of hunger—but no leopard came.

FEB. 6.—. . . .

FEB. 7.—A ruga-ruga party, of about thirty, left camp yesterday—to return to-morrow. Four or five of them, however, returned this evening, bringing with them a goat and some plantains. The rest of the party had proceeded further for more food.

One of the Manyuema died to-day of chronic dysentery.

The Manyuema always say of one of their sick, "Oh, he is well," and are much more unfeeling to their invalid comrades than even the Zanzibaris. They actually seem to think no more of dying than of eating.

FEB. 8.—We killed a goat to-day, most of which was given

to the sick in the form of soup. Nelson is by no means in a good condition to cross Africa, as he has now had ulcers, off and on, since August, 1887.

FEB. 9.—The remainder of the ruga-ruga party arrived to-day. They brought us a great quantity of food. Baluk, a Manyuema, died to-day of the exhaustion produced by his ulcers. I am glad to say, however, that by this time not one of the Zanzibaris uses native *dowr* (medicine), as they all have learned to appreciate the qualities of the European medicines as compared with their own.

FEB. 10.—Rashid, the head chief of the Zanzibaris, arrived to-day, with forty Zanzibaris, and 100 men of Mazamboni's tribe, to bring us on to Mr. Stanley. This is certainly a remarkable instance of the extraordinary power which Mr. Stanley exercises over the native mind, and the respect which he commands. These are the very men who fought so bitterly against him on first going to the Lake! Our leader undoubtedly exerts the same influence over white men: for whether one likes him or not, one feels compelled to respect and admire him. All of us treat him with as much deference and courtesy as if we were fully tied down by despotic regulations and relentless red tape.

We now heard that Mr. Stanley had received a packet from Kavalli on the 17th of January, containing a letter from Jephson, dated "Dufflé, Nov. 7th, '88," with a postscript dated "Wadelai, Nov. 24th, '88," and a second postscript dated "Tunguru, Dec. 18th, '88"; also two brief letters from Emin Pasha, respectively dated "Dufflé, Sept. 2nd, '88," and "Tunguru, Dec. 21st, '88." These documents told the startling tale that Emin Pasha and Jephson had been made prisoners on the 18th of August, '88, and were sent to Rejaf, on or about the same day that Mr. Stanley arrived at Banalya. However, by the intervention of Providence, the Mahdi's troops from Khartoum came up the river in steamers, and captured Rejaf, Bidden, Kirri and Muggi, with all ammunition and stores, killing several rebel officers and men of No. 1 Battalion (who had been in a state of mutiny for years, and who, finally, made a prisoner of the Pasha). The rebels rallied together, and tried to retake Rejaf, but were beaten off; the Pasha and Jephson taking the opportunity of escaping in the *mêlée*. Both of them got to Mswa, the most southerly station on the

shores of the Albert Nyanza, and, on the 6th of February, Jephson turned up at Kavalli's, the Pasha writing from Mswa to say that he would come out, and that he and Casati would avail themselves of our escort, but finishing his letter by saying goodbye, as he might not see Mr. Stanley or his officers again!

The party under Rashid brought a little vegetable food, but no meat. Katto, brother of the great chief Mazamboni, and another native chief, came with their men; who gave us a magnificent dance and sang to the music of three drums. Their dance is accompanied by a great variety of wriggling movements, and is of a licentious character—something after the fashion of the "nautch."

FEB. 11.—All hands are engaged in preparing a supply of food for four days. Rashid's party got one goat last night; Katto got one large and two small ones for his people. The sick in camp were supplied with half a goat. Nelson is to take charge of Mazamboni's men.

FEB. 12.—Every available man was furnished this morning with a load to carry; and at 8.30 A.M. all hands were marched out of the fort, and off to join Mr. Stanley. Of the ninety-nine of Mazamboni's men, only seventy fell in to receive their loads. Like all Africans, they are good schemers.

We camped about noon, in a beautiful corner of the forest —in the shade, with a full view of the open plain in front.

FEB. 13.—Yesterday we reached the plain about 10.30 A.M.; to-day we marched about six miles, and halted in Fetteh's Malonga—the village in which we had stayed when going to the Lake before, and where Fetteh had been so nearly killed by an arrow. The sultan of the tribe came, and gave us a present of seventeen fowls. We tied up one of his men, who had shot an arrow at one of our Nubians; but the sultan interfered in his favour, and gave us a goat as the price of his release; he also added a good supply of bananas. The sultan wanted us to go and fight for him against some neighbouring tribe, but we declined the privilege. Katto was extremely anxious that we should go and help him to make a good row, so that his men might get some loot. As he was Mazamboni's brother and active minister, we excused ourselves as diplomatically as we could.

FEB. 14.—At daybreak we left camp, and marched about eight miles. We camped in the open, where we experienced

great inconvenience from the want of wood to make fires. We had only the canelike grass of the field to burn. We had halted, as usual, in the course of our march for *terekeso* (luncheon).

FEB. 15.—We reached Mazamboni's about 2 P.M. to day, and met with a very good reception. We camped at once, and proceeded to kill a goat for the sick. The place is like an enormous fair-green; over a thousand people collected, and sold chickens, flour, and sweet potatoes to our men. The medium of exchange on our side was the *cowrie*—ten for one fowl. It was amusing to see our men seize their opportunity, and make love to Mazamboni's people; they would stroll away with their arms around their newly-made brothers to the villages, and return quickly with a fowl or some eatable, which they made it a *sine quâ non* should be price of the seal of friendship.

We received a letter here from Mr. Stanley, saying that Emin Pasha and the first contingent of his people had arrived, and that they would accompany us to Zanzibar. Mazamboni is very wealthy, having large herds of cattle; most of his country lies in a rich valley, through which a pretty curving river flows. There are large fields cultivated for growing Indian corn (*matammah*), *dukra*, and sweet potatoes. There is a vast expanse of undulating grass plain—without fences, on which large herds of cattle are grazing. On the margin of the forest, just as we emerged on the plain, we met a good number of guinea-fowls, and saw a great many new flowers, which evidently owed their existence to the genial influence of the rays of the sun, under which their colours bloomed brightly.

FEB. 16.—These people all speak the language of Unyoro, which is understood by some of our men; so that there is little difficulty in the interchange of ideas between us and them. Although they have no rifles, or guns of any kind, yet they know very well of their existence, and are aware, to their cost, of their deadly uses, as frequent raids have been made on them from Unyoro. This latter country is about four days off, and the king there (Kabba Rega) has about 2000 firearms, which are mostly tower muskets that have been bought at the coast by Arab traders at one dollar each, and exchanged for a tusk of ivory each—the value of the latter article being

in proportion to its weight; something like ten shillings per pound. An average tusk would be 60 lbs. in weight.

We spent the day at Mazamboni's, who sent us a two-year-old cow, with a small supply of Indian meal, sugar-cane, and beans for the men. The camp was crowded all day, and the chiefs spent their whole time with us. The practice among them is not to speak to their chief directly, but to one of his subordinate chiefs, who conveys the communication to him. These people, like the natives of the forest, do not appear to look upon us as anything very much superior to themselves; they move about boldly amongst us, handling everything, asking for anything to which they take a fancy, and rather looking upon us whites as pale, whitewashed, sickly-looking individuals; which we certainly appear to be by contrast with their well-nourished forms, and rich, glossy brown skins. We evidently hold a much more exalted opinion of ourselves than they do of us.

FEB. 17.—After a couple of hours' delay in getting the carriers, we started from Mazamboni's at about 8.30 A.M., and marched about eight miles over undulating fertile plains, covered with a long, coarse cane-grass; there are not a sufficient number of cattle in the country to eat the grass. The cattle are somewhat smaller than English cattle, and are of the various colours which we see among our own at home. They have a moderate hump developed above the shoulders. We camped at Mpinga's village, who sent us matammah meal, sweet potatoes, a blind goat, a kid, and a calf; but as all these articles were of bad quality, and but small in quantity, we declined to accept the gift.

CHAPTER XXI.

LIFE AT KAVALLI CAMP.

Meeting with Emin Pasha and his officers at Kavalli's—Ferida, the Pasha's daughter—Chief Kavalli's handsome appearance—The Wahuma are the finest people we have seen in Africa—Their dogs of the pariah type—Their liking for bangles and other ornaments—Bonny brings false news of the capture of Katonza's village by Kabba Rega—Enormous baggage of Emin's followers—Physique and appearance of his officers—Mrima commits suicide in his hut from despondency—Our water reservoirs in case of fire—We have our suspicions of treachery among Emin's people in the camp—The roll-call—Successful raid against a hostile chief—I dine with Emin Pasha—An epidemic of diarrhœa—Nelson and others ill with fever—The Zanzibaris wash themselves in local still-pools—Mr. Stanley ascertains the altitude of our camp—Fever more prevalent here than in the damp forest—Useless baggage—A case of typhoid fever—Deaths at Yambuya mainly attributed to the injudicious use of manioc—The two kinds of manioc in African regions—Illness of Mr. Stanley—I escort a party of carriers to Emin's Lake Shore Camp—Thorny mimosa bushes—The return journey with baggage—Sensitiveness of the Pasha regarding his people—Refusal of the men to fetch any more baggage from the Lake—Mr. Stanley calls a parade and makes examples of the ringleaders of the mutiny—Emin's early experiences at Constantinople—His Excellency cannot make up his mind as to leaving Equatoria—Sickness caused through drinking stagnant water—My experiences of the quality and quantity of water in Equatorial Africa—Division of water-supply into *current* and *stationary* waters—Rain-water as a drink to be used with caution—The qualities and components of the waters of streams and rivers—Modification of climate in the neighbourhood of large rivers—Impurity of streams with slow currents—Stagnant waters of pools and marshes have special opportunities of developing impurities—Hassan Bakari attempts to shoot himself—Improvement in all our conditions—Audacity of kites—Wooden disc inserted in the upper lips of the native women—The Pasha a very keen collector—The manufacture of "poteen"-like spirit by his people—Applications to me for advice and medicine—Irritating delay: April 10 fixed for starting to the Coast—Capture of cattle belonging to a hostile tribe—Coffee and cigarettes with the Pasha—Some eccentricities of General Gordon related by him—I remove another arrow-head from Fathel Mullah—People with enlarged spleens *fever-proof* in Africa.

FEB. 18.—We started early, and, after a march of about eight miles, reached Kavalli's, where we were received by Mr. Stanley, with Emin Pasha, and six or seven of his officers. One of the latter was a great, corpulent individual, weighing

about twenty stone, and a leader of the rebels. The Pasha now told us that he had not wished or intended to come out, till the mutiny had occurred. Jephson is looking well; he suffered very little from fever during his stay with the Pasha. Casati was there; also Vita Hassan, the Tunisian apothecary; the Greek merchant, Marco; and the Pasha's little daughter Ferida (about eight years old), whose mother (an Abyssinian) had died a few years ago. The Pasha seems very much attached to his daughter, who is of an olive complexion, with beautiful dark eyes, eyebrows, and eye-lashes. She is constantly running about without boots, although she is plentifully provided with garments of all kinds. Her great delight appears to be in catching beetles for her father. Vita Hassan appears to be the Pasha's right-hand man. All the Pasha's officers are dressed in spotless white uniforms, most of them have brass buttons with the Egyptian crescent and star; but in many cases they have ingeniously cut the shells of the Lake-shore into pearl-like buttons of circular form.

In a day or two the Pasha's people are to commence their ascent from the Lake-shore to this camp, which is distant about eighteen miles, and situated on a plateau about 2000 feet in elevation above the waters of the Nyanza.

All our men came around us, and gave us their salaams. Some meat was killed for our caravan. This is a fine open country; our camp is on an elevation situated close to the residence of Kavalli, who is the head chief of the country, and is a fine-looking specimen of the Wahuma. He is really very handsome, with high forehead, thin aquiline nose, thin lips—the latter adorned with a constant smile of a rather cunning, "blarney" type—and fine brown eyes. He continually smokes a large pipe, which was generally handed around when a few people collected about him. His clothing is of the same style and texture as that of his people, viz., a beautifully prepared, soft, pliable, glossy skin (goat or antelope), the hind legs are tied over the wearer's shoulders. It would make a splendid "drag." Without preparation these skins have a characteristic (offensive) smell. All these people belong to the Wahuma tribe, which is probably of Asiatic origin; they are by far the finest people we have seen in Africa. They are all herdsmen, and despise the tillers of the soil; the inverse episode of Cain and Abel might be enacted here any day. Each carries a stick,

about eight or ten feet in length, which he holds upright, grasping it with the right hand on a level with his shoulder, and is generally followed by a dog of the *pariah* type, with short hair, turned-up tail, and, occasionally, drooping ears. All the dogs we met in the forest had erect, pointed ears. Some of the dogs here are not unlike an inferior class of greyhound, and all of them are valued by the people in direct proportion to their usefulness in herding the cattle, although I have never had an opportunity of seeing them used in this way at all. These Wahuma do not scar themselves in the hideous fashion of the denizens of the forest, but are very fond of wearing bangles (of ivory or iron) on their wrists and ankles; they also wear some made from brass rods, and necklaces made of cowries and beads: a fashion which goes to show that traders have been to Uganda and Unyoro, through which medium these articles have found their way here.

Feb. 19.—Bonny and 100 carriers started off, to carry some loads, and fetch the Pasha's people. During the night, a fire occurred in one of the huts, which destroyed a couple of rifles, burnt some clothes, and scorched one man's hands severely.

Feb. 20.—A letter arrived from Bonny and Casati, saying that Kabba Rega's warriors had captured a village (Katonza's) two hours distant, and were then marching on their camp in strong force. Bonny had refused to remain, but said that he would escort up all the people, and bury their loads for safety. Only Marco, three soldiers, and a few women arrived here—with 150 loads. It is preposterous to see the amount of baggage which these people want to transport, both for themselves and their enormous number of slaves. Each servant has three, four, or five loads, and we officers of the E. P. R. Expedition have had only three to cross Africa with.

On receipt of the news, Emin Pasha and Nelson immediately started for the Lake; with about sixty Zanzibaris, and about twenty native carriers. Every one of our Zanzibaris carries a Remington rifle, which he now knows how to use, as he has had some experience of practising with it for over a year and a half: so that they are useful now, not only as carriers, but as soldiers.

Feb. 21.—Bonny arrived with Marco, and an extraordinary collection of loads, most of them being done up in skins and mats.

The Pasha says that each of his people can, at a single sitting, drink one or two quart bottles of a clear-coloured, intoxicating liquor, distilled from corn—somewhat after the manner, although not quite of the quality, of our Irish *poteen* at home. The physique of his officers entirely corroborates this statement; some of them can be impartially described as licentious, indolent, over-fed, bloated, congested masses of human flesh. I never saw a more loathsome set of wretches in my life; and the Egyptian officials are mostly convicts—I have already been shown a couple of murderers, &c.

FEB. 22.—Mrima, a man who had been suffering from a bad ulcer of the foot, committed suicide in a hut to-day; in the orthodox fashion: by pulling with his toe the trigger of a Remington rifle, the muzzle of which he had placed against his abdomen. The shirt which covered the latter was scorched by the powder. The bullet penetrated the abdominal wall, a little above, and to the left side of, the umbilicus; and had escaped a little to the left side of the lumbar spine. It had penetrated the aorta, and fractured the vertebral column. The amount of hæmorrhage was, of course, enormous, and death practically instantaneous. The suicide was the result of despondency, as the state of his foot prevented him from moving about with his comrades, who were now enjoying themselves in the midst of plenty. The ulceration of his foot had been very rapid and destructive. He had had some meat, potatoes, and medicine at 9.30 A.M., when he seemed to be in good spirits. He shot himself at 11.30, in another man's hut. Some of us had heard the report; but, being within doors, the noise did not seem loud enough for the discharge of a rifle. As is always the case when anything unusual happens, the men at once came and told Mr. Stanley. They informed him that the man had died; but when I was sent by Mr. Stanley to see him, I found that it was suicide. He had asked for some *pombé* shortly before, so that it is likely that he was under the influence of this liquor at the time, which always makes the men very excitable and rash, although it is not very intoxicating.

I had the huts thrown down, and burnt, for fear of contagion. A few days ago, a large sink was converted into a reservoir for water; to be utilised in case of fire. When the pit was disturbed in the preparation, each of the seven men

who had worked at it got fever, but they have now all recovered.

FEB. 23.—All our men are hard at work every day, building huts for our expected guests from the Lake-shore. Nelson wrote last night to say that all was well at the Lake; the Kabba Rega attack had all been a false alarm.

FEB. 24–28.—The Pasha returned from the Lake to-day (28th) with a vast number of loads. The steamers returned a day or two ago from Mswa, with a great number of loads; also a number of women and children. On discharging their cargo, they were immediately dispatched back to Wadelai with the officers, who returned for their wives; and a letter from Mr. Stanley, saying that each man was to provide carriers, and that unless they came immediately he could not wait for them.

MAR. 1.—A somewhat sensational incident occurred last night. Two of the Zanzibaris overheard the Pasha's soldiers and our Nubians engaged in confidential conversation. The former said: "Do you think these people"—*i.e.* ourselves and the Zanzibaris—"would run if we seized their boxes?" Our Nubians replied in the affirmative. During the night, a rifle belonging to one of our men was stolen by the Pasha's people at the Lake. These incidents combine to prove our suspicions of treachery. Night patrols are now posted to watch the camp carefully, as the Pasha's people were observed to collect in organised clusters after sunset, and engage in close whispering conversation.

MAR. 2.— . . . .

MAR. 3.—The roll call now musters 200 Zanzibaris, 21 Mahdis, 21 Nubians, 7 whites, and about 250 Manyuema. Stairs went to the Lake, the day before yesterday, with a large party of carriers for loads; to-day, a force of 10 Zanzibaris, 2 Nubians, and 70 of Kavalli's natives, went to the Lake to bring up more loads—with the women and children, as the natives on the lower plain are rather hostile. The ruga-ruga got between 120 and 130 head of cattle a few days ago, from a hostile chief. As Mr. Stanley knows so well how to manage these people, the result of this raid was that the owner came to our camp; and, after a conference of some time, arranged with our leader that for every five loads which he brought from the Lake, one of his animals should be returned to him. In this way he has the chance of redeeming his entire stock. None

of his people have, however, as yet come in to fulfil his part of the contract. It is amusing to see our men endeavouring to get milk from the cows, as these animals appear to have complete control over their lacteal organs.

The Pasha's little daughter is with him. He told me that he is the son of a merchant, and that his parents died when he was young. His friends then took him in charge, and he was allowed £5 monthly to live on, during his university course. He is very hospitable and good-natured. I dined with him last night. He has always three or four courses at dinner, although he himself eats very little. His table is always covered with a white table-cloth: clean, but much worn, and showing a great many perforations. His valet, Surur, waits.

Stairs arrived from the Lake to-day with a number of loads; some of these were food, but the rest were mere rubbish.

There is an epidemic of diarrhœa in the camp at present. I suspect that it is due to the sesame oil imported here by the Pasha's people. This is extracted from the sesame seed by a process quite similar to the one employed in preparing castor oil.

Nelson is down with fever, accompanied by violent vomiting and retching. His temperature, at noon, was 102° F. I at first thought that the unaccustomed daily supply of good meat might be the cause of the general disturbance of the digestive system from which the men were suffering. To-day, however, I discovered a new source of the irritative poison; and, certainly, the true one. There are a number of still pools in the neighbourhood in which the Zanzibaris, &c., wash their bodies, including the ulcers; and, as they think the river too far off, they also draw drinking-water upon occasion from the same reservoirs, to save them the trouble of walking to the river. Mr. Stanley and Jephson have found a good water-supply, a little over half a mile to the south-west side of the camp. This is a stream of pure running water from the hills, of excellent taste and quality. Sentries have now been posted to keep people away from the standing pools. I distribute about twenty-five cups of fresh milk to the sick, both morning and evening.

MAR. 4.—Mr. Stanley boiled his thermometer to-day, to ascertain the altitude of this place. The position of the camp (at Kavalli's residence) is 4800 feet above sea-level. The

Lake is, I believe, 2500. Both natives and ourselves suffer frequently here from severe attacks of fever. Both the Zanzibaris and the natives say that the cause of the fever is their going down to the Lake-shore. When they go there for the loads, they develop the feverish symptoms *at once* on their arrival. On the other hand, Emin Pasha's people, who rarely have had fever in his province, have suffered much from it since they came here. Mr. Stanley had fever yesterday. It is strange that here, on the dry plain, we should suffer more from fever than we ever did in the damp forest. He is much better to-day. Yesterday, the Pasha received a letter from his commandant at the Lake, to say that five of his soldiers, who had been there, had run away. I fear that if the Pasha's people come out, they will be a great source of trouble and real danger to us. Over 600 loads have already been brought up from the Lake for them, most of which are useless bedsteads, chairs, boxes, grinding-stones, &c., &c., &c., which it will be absolutely impossible to carry away from here. The distance to the Lake is about eighteen miles, including a very steep ascent of about 2500 feet, which takes it out of our carriers pretty considerably.

MAR. 5.—One of the Manyuema died here this morning of fever; it was of a distinctly typhoid type. The Manyuema are very negligent of their sick. Yesterday I found this man in a delirious state creeping through the grass at some distance from the camp.

We have been discussing the large number of deaths which occurred at Yambuya; and are disposed to attribute the greater proportion to the injudicious use of manioc; together with want of exercise, want of work with some object, and the mental depression produced by their extremely monotonous and distasteful surroundings, acting on individuals whose systems were also lowered by want of meat: these factors are quite sufficient to explain the terrible mortality.

Emin Pasha tells me that he has known of deaths from manioc (cassava) in his province. There are two kinds of manioc in these African regions—the poisonous and the non-poisonous. Both have palmate leaves; but they are distinguishable by the narrower and smaller leaf, as well as the fibrous root, of the poisonous variety. The root of the latter when prepared is, accordingly, less floury than that of the

edible specimen. I certainly did find the root of the manioc in the neighbourhood of Yambuya of a distinctly fibrous texture; but not very different in any of its other characteristics from that of the Congo (or elsewhere), which had been used with impunity. The poisonous action of the injurious form is very slow. The men who have returned from Yambuya are very thin, with very unhealthy-looking, sallow skins. They do not put on flesh quickly like the others. They are also very despondent, and greatly subject to extensive ulceration.

Mr. Stanley had a bad day yesterday; also a bad night last night. He is, however, much better to-day. We send a fatigue-party for water every day, to a distance of about one mile.

MAR. 6.—Mr. Stanley's temperature was 104·4° F. on yesterday afternoon. He is much better to-day.

MAR. 7.—I was sent down to the Nyanza to-day, with fifty-one Zanzibaris and nineteen Manyuema. We started very early, and reached the Lake plain, at the bottom of the precipitous hill which separates our camp from it, about 11 A.M. The march is a pretty stiff one, so we rested there till 2.30 P.M. The hill, *down* which we had climbed from our camp, is 2300 to 2500 feet in height. We enjoyed the rest under the beautiful shade afforded by the huge tamarind trees, which grow luxuriantly at the foot of the hill, and for some distance into the plain. We reached the Pasha's encampment, on the Lake-shore, about 4.30 P.M. We walked very quickly; and, as the day was extremely hot, many of the men got their feet severely blistered. It is necessary to wear sandals on this lower plain, on account of the great abundance of the thorny mimosa bushes, which are thickly distributed over the surface of the ground here. I had some talk with the Pasha's people, and then settled down for the night.

MAR. 8.—We left camp early: having previously expended a vast deal of talk, in trying to persuade these people that my men were unable to carry loads of more than 100 lbs. each up to our camp on the plateau above. Every individual in the Pasha's camp, even the servants, have several loads to be transported for him (or her). We reached the river at the foot of the hill at 10.30 A.M.; some of the sore-footed members of the party did not overtake us till 2 P.M. We all then waited till 3 o'clock, when we proceeded to climb the hill. We had got

about half-way up its side by dark. Thirty of the natives, who had descended the hill during the night to help us in the transport of the loads, returned with us. A beautifully cool and crystal stream zigzagged down the slope, and we composed ourselves for the night on the grass beside its bank; as we had neither wood of any kind, nor long grass, of which we could attempt to construct even the most elementary form of hut.

MAR. 9.—We marched at daybreak, and reached our camp at Kavalli's by 10.30 A.M. The rear of our column did not get into camp for several hours after. Half the loads were simply rubbish, and I am really surprised that Mr. Stanley allows this kind of thing to go on; it actually went to my heart to load our men, who have already endured so many indispensable hardships, with such enormous loads of rubbishy articles, and all for so contemptible a people, who do not seem disposed to lift a hand to assist themselves. My feet were blistered and very sore after the march.

I dined with the Pasha. He is extremely sensitive to any remarks made about either himself or his people; I believe that this fact accounts for our leader's tolerance in sacrificing his men to the wishes of these people.

MAR. 10.—Much earlier than usual this morning, the men fell in with their rifles, and absolutely refused to go to the Nyanza for any more loads. I must say that the movement was not to be wondered at; but Mr. Stanley was, of course, obliged to treat it as a mutiny. Nelson had been sent off with forty or fifty Zanzibaris, thirteen Manyuema, and twelve Nubians, to the Pasha's camp at the Lake, to fetch more loads. In about half an hour, the whole party returned; having refused to go to the Lake. Nelson went at once to Mr. Stanley, and reported the matter to him; the latter was at once "Bula Matari to-day," knit his eyebrows, started up without delay, buckled on his revolver, took his rifle, went outside his tent, and blew his whistle, which is the signal for all the companies to fall in immediately in front of their officers. The men came flying on parade, from every nook and corner of the camp; with bandoleer in one hand, and rifle in the other; and, within three minutes, every man was in his place: a wonderful instance of the extraordinary influence which Mr. Stanley exercises over the men, and of the respect and confidence with which they invariably treat him. He then ordered the mutineers to ground

arms and bandoleers, and march three paces to the front; when a party was directed to collect the rifles and belts. The ring-leaders were punished individually, and placed under a guard; the others were sent on to the Lake with Nelson for the loads —unarmed, and under a Nubian escort. The culprits were flogged with the *kurbash* by Umari, the Nubian serjeant-major. (The kurbash is a common piece of furniture among the Pasha's people, and is made from hippo or rhinoceros hide.) Had it not been for this extremely prompt and decisive action, the mutiny might—indeed, almost certainly would —have developed into something extremely serious.

The Pasha has a very bad leg at present—an anthracoid inflammation of the skin and subcutaneous tissue. I am giving him plenty of advice, but very little medicine, as our supply is so scanty.

MAR. 13.—The Pasha told me that he had been obliged to leave Constantinople because he was one of a party who wrote very strong articles in a certain newspaper, to the support of which Midhat Pasha contributed a thousand a year. Emin had been in the medical staff of the Turkish army, and had been specially promoted to a Majority for distinguished conduct on the battle-field. After running away from Constantinople, he entered the Egyptian service, and was sent up to the Soudan.

My experience of this region of the world has demonstrated to me that too much importance cannot be attached to the fact that every one, black or white, who stands in a draught, for even an extremely short time, is sure to have an attack of fever directly afterwards. I had myself an attack of fever yesterday; but this was brought on by standing in the sun, for about ten minutes, with a small hat on.

I can foresee that there will be some unpleasantness between the Pasha and the Expedition, for Jephson, who knows him, dictates to him, and reminds him of how he had to fly for his life, which is naturally a sore point, although true; how his orders were disobeyed, &c., &c. This annoys the Pasha, but his extreme politeness will not allow him to check us. When he is reminded of all the suffering we endured in coming here with relief to him, what comforts we left behind to rescue him, &c., &c., the Pasha replies that he does not wish to be reminded, as Jephson has told him so; but some such gentle persuasion is necessary, as both ourselves and

our men are tired of toiling and waiting for His Excellency to make up his mind.

Nelson returned to the Lake yesterday, and Stairs proceeded for some loads to the Lake to-day.

MAR. 14, 15.— . . . .

MAR. 16.—Mr. Stanley went off this morning to the hills on the west side of the camp, about four miles off; they are occupied by the Balegga, who are hostile to the Wahuma on the plains. He returned about 10 A.M. He was accompanied by Jephson. They crossed the bed of a stream, which was dammed up in places, forming reservoirs; the water from which had been utilised by the Zanzibaris for washing and cooking purposes. As the water in these little reservoirs was, of course, not very pure, the men had been ordered to go a few hundred yards further on, and always fetch their water for drinking and cooking from a running stream, of much larger size, and better-looking water. To avoid all risk of contamination, and make assurance doubly sure, the drinking water for the officers was fetched from a stream about a mile off. Mr. Stanley and Jephson now suggested that it was the same stream, and that we had all along been drinking the same water that our men had been washing and bathing in, and which was habitually used by the Zanzibaris for their well-known religious ceremony. On examining the course of the stream, we found, sure enough, that their unpleasant surmise was a perfectly correct one. An order was, accordingly, issued that in future all our water was to be drawn from a place in the stream at a good distance above the place where the men washed. I walked around all these streams now, as I was very anxious to satisfy myself about their bearings, the whites and a few of the Zanzibaris having all been recently ill with the same symptoms. We had all been on the look-out for the cause of this outbreak; some suspected the beans, others had accused the good living, but there is no longer any doubt now that the real cause was in the water. There were many holes and pools with stagnant water, where the men washed, and from which they also drew their drinking-water; when this procedure was put a stop to, the sickness at once ceased.

My present experience, now a prolonged and varied one, as *Curator aquarum* in Equatorial Africa, may indeed have blunted my fastidiousness of taste, but has never in the

slightest degree diminished my appreciation of the vital importance of attention to the quality (and, of course, quantity) of WATER to be used by the tropical explorer. In crossing this continent there certainly is ample opportunity for observing endless varieties of this all-important fluid, and I have often regretted that my time and appliances cannot permit me to examine all its modifications as thoroughly as I could wish.

The dogmatic teaching of Celsus, although admitting of many exceptions, still forms a concise text from which the properties of drinking water may be discussed at length. He says: "*Aqua levissima pluvialis est, deinde fontana, tum ex flumine, tum ex puteo, post hoc ex nive aut glacie, gravior his ex lacu, gravissima ex palude.*" The sources of our water supply may be conveniently divided into the two great ones of *current* and *stationary* (or stagnant) waters.

I. *Current* (running) waters may be considered under the following heads:—

1. Rain water.
2. Distilled water.
3. Water of springs and of artesian wells.
4. Water of streams, rivers, and canals.
5. Mountain waters; derived from the melting of snow or glaciers, torrents, mountain lakes.

II. *Stationary* (stagnant) waters include—

6. Wells.
7. Pools and marshes.
8. Mineral waters.

Of the above-named classes those which are most interesting in the present connection are the first, fourth, and seventh.

Rain water, although popularly looked upon in all ages of the world as almost symbolical of purity, has been condemned by medical writers, even from the time of Hippocrates, as a reliable source of drinking supply. The observant "Father of Medicine" says, "Of all waters those which decompose the most rapidly are rain waters; of all waters they are the most mingled [with impurities], and this mixture accelerates decomposition." Zimmerman, the celebrated physician of Frederick the Great, praises the lightness (légèreté) of rain-water, but goes on to remark, "It quickly decomposes on account of the presence of the eggs of insects, with which the

air is always filled; that is why it is not used on board ships. It becomes still worse when it has been kept in cisterns." Medical writers of the last century generally admitted that rain-water was easy of digestion, but pointed out that the water of winter and spring should be preferred; because, during summer and autumn, the water, in passing through the atmosphere, always became charged with the exhalations which were therein suspended. And so the shrewd guesses of observers of a former age anticipated the scientific results of Pasteur in our own days.

We now fully understand why it is that rain-water requires to be used with caution as a drink; containing, as it always does, according to the district, dust of every variety, together with its invisible contingent of moulds and bacteria. The rain-water collected over large towns is for this reason, of course, among the impurest sources of drinking-water. The importance of this consideration to the inhabitants of Venice, Cadiz, and the borders of the Red Sea—where no other source is available—obviously cannot be over-estimated. Among the inorganic compounds which present themselves in rain-water, ammonia is characteristic of the city, nitrates of the country—especially in hot climates, and after thunder storms—and chloride of sodium (common salt) of the neighbourhood of the sea. Traces of compounds of chlorine, of iodine, of lime, and of magnesium, have also been demonstrated by various observers. Of organic substances we find among non-living specimens starch grains, pollen grains, fragments of hairs, of wool, and of feathers, epidermic cells, *débris* of vegetable life, of diatoms, of confervoids, &c., &c. Of the living organisms of the atmosphere which are carried down by rain-water, the supply is far more bewildering. Leading types of the principal forms of bacteria—the rod-shaped, the ball-shaped, and the corkscrew-shaped—may be found in a single drop: the rigid-looking bacillus; the modest, unobtrusive coccus; the neatly-coiled spirillum; sarcinæ, arranged in cubical bundles; and vibrios, practising their ephemeral gymnastics.

The qualities and components of the waters of streams and rivers vary, of course, almost without limit, according to the geology, climate, flora, fauna, &c., of the surrounding district, and of the sources from which they are derived. The influence

of season on the volume and composition of the water of a river, is nowhere better exemplified than in the case of the Nile. In the case of rivers of glacier origin, the annual melting of the snow at (or near) the source is, necessarily, always accompanied by the washing into the stream of enormous quantities of detritus—from the superimposed moraine, and the underlying glacier mill—and this is sufficient to give the water an entirely new tint, to characterise it during the summer months. This is well exemplified in the case of our European Rhone. The influence of a high temperature in heating the waters, and in promoting the putrefaction of any organic matters present is too obvious to require any special comment.

In the case of very large rivers, such as the Nile or the Congo, the broad expanse of water has, of course, the important additional function of modifying very sensibly the climate of the adjoining part of its basin. The temperature of the water is always considerably below that of the surrounding air during the prevalence of great heat; when cold supervenes, the water, on the other hand, will be found to remain several degrees warmer than the atmosphere in the vicinity. Water, having the highest calorific capacity of any of the constituents of the earth's surface, warms up slowly, and slowly cools. The adjacent land having a very much smaller specific heat, becomes rapidly warmed under the influence of a torrid sun; but, on the withdrawal of the latter, it very soon gives out its small stock of heat, by radiation. The heated layers of air over the warmer land expand and rise to the higher regions of the atmosphere; while the disturbance of equilibrium so caused produces a current from the denser strata over the water surface, so as to equalise the pressure. The reverse process takes place during the chills of evening; and the atmospheric currents, manufactured in this way, have the resultant effect of acting as a *drag* on the climate of the neighbourhood of all large expanses of water.

Streams of slow current have, of course, fuller opportunities of becoming contaminated by all the impurities which they may meet in their course; and, accordingly, this factor, apart from all considerations of climate, is a most important one in determining the degree of impurity of running water. But the most fertile source of impurity of all streams is, necessarily,

the neighbourhood of human habitations. This is as fully demonstrable in the heart of Africa—in the vicinity of a native village, or even of one of our own standing camps—as it is in the heart of London or of Paris.

The stagnant waters of pools and marshes have special opportunities of developing impurities. During the heat of summer, and, more particularly, during the rainfalls which follow prolonged warmth, innumerable germs of bacteria and of infusoria, which are washed down with the floating dust from the atmosphere above, and with the earth from the soil around, grow and multiply in the greatest profusion. The short-lived beings thus called into existence rapidly pass through their ephemeral existence into the stage of decomposition, and the diffusion of the organic exhalations thus manufactured, rapidly dispersed as they are by the expansion caused by the sun's heat, is undoubtedly the great cause of the poisoning of the air above, as well as of the waters beneath, those tainted sections of the earth's surface. The spores of the lowest forms of plant life are always supplied by the action of the winds, and cryptogamic products very soon spread themselves over the surface, which bye-and-bye come to form a screen, that shuts off the bright sunlight from the deeper layers of water. The low animal forms, which love not the light, revel in the medium thus afforded; and develop in countless multitudes. They rapidly die and decompose; and their protoplasmic constituents soon come to supply, from the molecular *débris*, a quantity of sulphur and phosphorus for the evolution of sulphuretted and phosphuretted hydrogen.

With waters of this type we have had to deal during our sojourn in the great forest. The supply is not so contaminated now: so that, by the use of reasonable precautions we should be able to procure fairly good water while we stay in this locality.

One hundred and eight of the natives went to the Lake today for loads.

I forgot to mention in my diary of a few days ago that Hassan-Bakari had attempted to shoot himself; the reason he assigned was because I had given him "twelve" with the "kurbash" for disobeying my orders, on the day that the men had mutinied. The men were delirious, on account of the hard work imposed upon them in carrying so much rubbish from the

Lake, and are not now so broken-spirited, as they have plenty of good food.

Emin Pasha gave his hand to Mr. Stanley last night, that he would be ready to leave this place on the 10th of April next.

MAR. 18.—We are all growing quite fat and over-fed here, now that we have so much milk to drink. Our appearance certainly does form a contrast to what we presented when prowling about in the forest; where we were so thin that Stairs lost his ring, as he could not hold it on his attenuated finger.

Mr. Stanley fell in all the men to-day, and divided them into companies: No. 1—his own company, which I used to look after—he has now given to Jephson; No. 2 Company to Stairs; No. 3 to Nelson; No. 4 to myself; Bonny is to take charge of the Nubians.

MAR. 19.— . . . .

MAR. 20.—Cartridges were distributed to all the men to-day.

Kites are very numerous here; they are always about when any meat is killed, and swoop down with the greatest audacity, often actually snatching pieces of the meat out of the men's hands.

Nearly all the women whom I have seen in this neighbourhood have a hole in the upper lip; some of them have large circular pieces of wood, *even exceeding a couple of inches in diameter,* forced into the hole; this projects from the face for a measurable distance—quite enough to effectually prevent them from kissing, even if they wanted to.

The Pasha is a very keen collector; he has already secured many birds, bugs, fishes, and insects. He will have great difficulty in conveying his collection to the coast, as our supply of carriers is certainly insufficient for the enormous amount of baggage. He has been describing to me how the people of his province manufacture the "poteen"-like spirit to which I have already more than once referred. They take Indian corn and steep it in water, covering the surface of the latter over with leaves, and leaving it till it sprouts; which it does in three or four days. They then take it out, pound it in a mortar, and return it into a large vessel of water, mixing with the hand, till it attains the consistency of gruel. It is then left to sour—three to six days. It is next dried, pounded in a mortar, and scalded till it has assumed a putty-like consist-

ence, and then left to cool. When cold, it is mixed with cold water till reduced to the consistence of soup; it is then left standing for twenty-four hours, and, lastly, distilled with the help of earthenware vessels. Very many of the Pasha's people imbibe large quantities of the liquor so procured.

Many of the men here are suffering from itch. The treatment adopted is to have them well washed and scrubbed, and then thoroughly well rubbed with a mixture of gunpowder and oil. This application causes a good deal of stinging pain, but it is really very effective; after a few applications they are perfectly cured.

I believe that we are to have but three carriers each when we resume our march to Zanzibar; if so, I will again have to throw away my collection of curios. The Pasha's people come to me in swarms for advice and medicine: I give them a much larger proportion of the former than of the latter, as most of these complaints are rather imaginary, and I cannot afford to waste any of my scanty drugs on ailments of this class. Of those who are really ill, most are syphilitic, many have ulcers, and a few are suffering from the debility of age, being over seventy years old. I also give advice for delicate children by the dozen.

This waiting here for the Pasha and his people is quite sickening; his followers are making no exertion whatever to get themselves into readiness. Mr. Stanley has said over and over again that our object was to bring him relief, which we have accomplished by giving him ammunition. I pity the Pasha himself, for if he returns to his province—to the people who rebelled against him and imprisoned him—he is sure to be killed, and he seems very timid about returning to Europe without all his people. He has asked Mr. Stanley, Nelson, Jephson, Stairs, and myself, if we thought that he had done enough for his people, and if we would say the same when we returned to Europe; we all emphatically assured him that he had done a great deal too much for so useless and treacherous a lot as they too obviously were. He has declared his intention of leaving with us on the 10th of April; if he does not hear from Wadelai in the meantime, he will leave a party to follow on after us. We have heard from reliable spies that the Pasha's mutineers may at any moment march down on us and capture both ourselves and our stores; this I do not,

however, believe that they can possibly succeed in doing; for the natives for ten miles around are all loyal to Mr. Stanley, so that he would be warned of their coming, and would have a reinforcement of at least a couple of thousand natives to assist, in case of the occurrence of any foul play of this kind.

I am at present treating both the Pasha and Captain Casati for ulcers.

MAR. 21.— . . . .

MAR. 22.—At 5 o'clock yesterday morning, Jephson and Stairs started, with their respective companies, to inflict punishment on a hostile tribe. They returned late at night; with 310 head of cattle, and about twenty goats and sheep. One man, Ulya, had received a deep arrow wound in the calf of his leg. The shaft was broken, and the point of the arrow was near the skin. By a small incision over it, I was able to extract the arrow-head directly through the new opening—the barbs would have effectually prevented its passing the other way, if I had attempted its removal in that direction.

The men have also secured a liberal supply of beans and chickens, and obtained a quantity of very good skins, which will help to cover their nakedness.

MAR. 23.—Mr. Stanley took a photograph of the Wangwana to-day in a group. The arrangement was extremely theatrical, as some of the largest men in camp were alongside the dwarfs, so as to make the contrast as telling as possible.

I managed to get a few cooking-pots to-day from the Pasha's people: we wanted them badly, having but two belonging to the Expedition—in fact, we are indebted to the Pasha for most of our little extras or comforts here, including honey, with which we sweeten our tea. Whenever we pay the Pasha a visit, he always gives us a tiny cup of Turkish coffee; and, as is invariably the case among the Turks and the Arabs, it is accompanied by a cigarette. We have now got as much milk as we require, a state of things which we had ceased to hope for in Africa after our last two years' experience. The Pasha told me that General Gordon was the most inveterate cigarette smoker, and was in the habit of taking opium—both by mixing it with his cigarettes, and in pills. He first recognised this by a certain fulness and sweetness of the voice, which he noticed after he had taken his medicine. This habit may account for his occasional eccentricities, such as giving a man a box on

the ear (or a few lashes of his kurbash) and presenting the delinquent, immediately after, with a gift of one or two dollars. He also told me that the General had become remarkable through his eccentricities, and felt that he (the Pasha) could not forgive him for one thing, viz.: that when Gordon ordered him (the Pasha) to visit Uganda officially, he refused to give him the order in writing, and therefore evaded responsibility. Nevertheless, the Pasha spoke, upon the whole, very highly of Gordon.

MAR. 24.—I have just removed an arrow-head from Fathel Mulah, the Nubian, who had received six of these missiles in his body, on the 2nd of January last, in the forest. This is the sixth (and last) arrow-head, which I have now succeeded in extracting. It is bent, like the others, having struck one of the vertebrae. I have all six arrow-heads in my possession now. (Vide No. 13, page 500.)

The Pasha tells me that many men in his province have large spleens, and that these men never suffer from fever. He believes that people who have enlargement of this viscus are *fever-proof* in Africa. He mentioned his own case as bearing on the point: he has had fever but three times during a thirteen years' residence in Africa—his spleen is somewhat enlarged.

CHAPTER XXII.

PREPARATIONS FOR THE RETURN JOURNEY TO ZANZIBAR.

A steamer arrives from Mswa Station with some of Emin's people—Letter from the rebel officers—Our discussion of the same—We decide to wait until April 10 for Emin's people—Treachery suspected in the camp—Emin's clerks are almost all bad characters—Some newcomers arrive at Mazamboni's—Mr. Stanley's proposal to Emin Pasha regarding the Congo Free State—Emin presents me with a box of medicine—We obtain another sight of the great snow mountain which directly contradicts Herodotus' view—The Monbuttu tribe inoculate with the virus of syphilis—Stairs makes the first move homewards with some loads—Arranging the loads among the men—Bark cloth suspended from the belts of the Wahuma and representing tails—Haunts and habits of the dwarfs—Their different ways of catching game—An elephant trap—Canniba'ism not practised by the dwarfs—Emin Pasha and myself take careful measurements of the various dimensions of four specimens of the pigmies—Mr. Stanley acts as mediator between Mohammed Effendi and his wife—Circumcision practised by the Monbuttu tribe—Syphilis in the Pasha's Province—His men suffer from enlarged spleens—Length of an Arab wedding festival—Nelson and I arrange with the Pasha for a cook—My experience regarding a cook with the Guards' Camel Corps—Our dwarfs since leaving the forest are gradually pining away—Attempt of the Pasha's people to steal some Zanzibari rifles—Mr. Stanley sounds a general muster and addresses the men—His reasons for so doing—I compare his version of the incident with that of the Pasha's—Circumstances render Emin's return to the Province impossible—Total number of Emin's people, also loads—Dance by Wahuma women outside Mr. Stanley's tent—Contest between Omar, the Nubian chief, and five Zanzibaris—We institute some athletic sports.

MAR. 25.—About 1 P.M. to-day, a few of the Pasha's people arrived (including a Bari interpreter), from Mswa. The steamer had come from that station, and had not even brought a letter from either Shukri Agha, chief of the Mswa Station, or Selim Bey, senior officer at Wadelai, although these officers had orders to write, or come to our camp, at the first opportunity; and had also been emphatically told by both Mr. Stanley and Emin Pasha that the former would not wait for them longer than till the 10th of April. The steamer brought some passengers and some food—also a short letter

signed by all the rebel officers, and nearly all the clerks, proclaiming their repentance for what they had done, and saying that they would all come out with the governor: Mr. Stanley received one copy of this letter, and Emin Pasha another. Accordingly, the soldiers alone will number 800 or more; and as they are all polygamists, they will, with their wives and children, form an immense multitude compared with our puny force of 200 Wangwana (Zanzibaris), and twenty-one Nubians. Most of these soldiers are armed with Remingtons, and have some ammunition left.

MAR. 26.—Immediately after the arrival of the above news on yesterday, Mr. Stanley sent for Stairs, Nelson, Jephson, and myself, to come into his tent, where he and the Pasha were seated. Mr. Stanley then said, "I have sent for you officers to ask your opinion as to whether we should stay here longer than till the 10th of April, as we have already waited for the Pasha and his people nine months." He gave us a long address in connection with the questions, and we all expressed our desire to start on the 10th, as these people have had such a long time to get ready; besides, the Pasha says that they will be here in fifteen days; if so, they will, of course, be ready to accompany us on the 10th of April.

Mr. Stanley and Emin Pasha then wrote informing both the rebels and the "faithfuls"—if, peradventure, any of the latter are to be found—definitely stating that the expedition will leave here on the 10th of April, with or without them. The Pasha certainly interceded for these worthless rebels in a most self-abnegating — and, indeed, unreasonable—manner. Mr. Stanley, although admitting the danger of their presence among us, as some of them had already repeatedly declared that they would seize our ammunition, still consented to allow them to join us; but on the conditions that, before they enter our camp, both officers and men shall lay down their arms, and that they will be at once fired on, on the very first sign of disorder or insubordination appearing among them.

We all agreed, of course, to wait till the 10th of April; but, all the time, we felt quite certain that if these wretches arrive in force they will simply overwhelm our Zanzibaris; and that, whether they came before or after our departure, they will immediately, on seeing a good country, seize all

our ammunition, and settle in it. The belief to which we are, however, most firmly inclined is, that on coming here they will probably attempt to *kill us all*, and settle here, as the country would be very suitable for them.

Mr. Stanley told the Pasha that his only fear was that he would forgive the rebels and return to them, and not come out to Egypt at all. The Pasha asked if Mr. Stanley and us officers would support him when he returned to his government, and say that he had done his best for his people; we were all unanimous in assuring him that we considered that he had done a great deal too much.

MAR. 27.—The Pasha came to my tent this morning, and told me that he had received a long letter signed by all his clerks, excepting his own personal clerks, asking him for some advancement and reward, as he had recently rewarded the soldiers. This communication, coming at such a time, is peculiarly impertinent and unreasonable; the Pasha has done what he could to get these people and their families away from the clutches of the rebels. It must also be remembered that many of them are criminals, and almost all are bad characters—having been connected with Arabi's rebellion, or been convicted of crime in Egypt, and then transported here to the Equatorial Province, to fulfil their terms of penal servitude. They certainly do look like a party of midnight assassins; and thoroughly represent what might be expected to be the appearance of the denizens of the "Botany Bay" of Egypt. His confidential clerks were of this class, and all are enfeebled by disease which has been aggravated by intemperance or other vice, or by misconduct.

At about 10 A.M., some of Mpinga's men came into camp with the news that a very large number of people had arrived at Mazamboni's, who had clothes like the Zanzibaris, and were looking for Mr. Stanley. The identity of the new comers, proved a fertile source of guessing; we thought of, first, Jameson, and Salim Bin Mohammed; secondly, Kilonga Longa and his people; thirdly, another relief expedition sent out by the committee, on account of the enormous number of desertions at Yambuya; fourthly, Tippu-Tib. Mr. Stanley immediately fell in No. 1 Company; and dispatched Jephson —with about forty men—to ascertain the facts of the matter. We all hope that it is Jameson.

During a quiet conversation, a few mornings ago, the Pasha told me that Mr. Stanley had said to him that the King of the Belgians would make him (the Pasha) Governor of all the Congo State (including Stanley Falls), and to the Albert Nyanza, if he would accept the post; and, that with the united strength of the Pasha's men and our men, they could return and fight Tippu-Tib, if necessary; and drive him back to Tanganyika. (This scheme seems unaccountable.) The Pasha would not accept the post under any circumstances, as his ammunition, stores, &c., should then all come *via* the Congo; and, he considers the Congo State is so young, that he might at any time be left in the lurch, without any assistance whatever. However, he says, that if, after getting out with us, the King of the Belgians would make him Governor of the Congo State, he would accept it. If he accepted the appointment—conveyed by Mr. Stanley's message — he would have the rank of General in the Belgian Army, with any pay that he asked for.

The Pasha has kindly had my white clothes dyed brown for me; this latter is a safer colour in an enemy's country. The dye used was prepared from the bark of the wild fig tree.

MAR. 28.—The Pasha to-day handed me over a box of medicines—about a foot and a-half in length, by a foot in width, and a foot in depth. It contains a goodly array of bottles, but very little medicine. He asked me whether, if he or his people required medicine, I would give it to them. I replied that I must first consult Mr. Stanley, as the medicines in my charge all belonged to the Expedition. Just at that moment, Mr. Stanley entered the Pasha's house where we were talking, so I asked him there and then, and he consented at once. I thought it my duty before taking over medicines on such conditions, to ask my chief for his permission. Mr. Stanley said, "Look after the Pasha and his people, as well as the Expedition, as long as the medicines last." I said that I should be very glad to look after the Pasha's people.

This morning some of the Wangwana were allowed to fire at an ammunition box at a distance of 100 yards. They were perfectly innocent of the use of the sights.

MAR. 29.— . . . .

MAR. 30.—To-day the snow mountain which was seen by

Jephson and myself in April of last year, and also by Mr. Stanley and myself on the 24th of May following, stands out very clearly; but not quite so distinctly as when I saw it for the first time. We all took sketches [of it. The Pasha, Casati, Stanley, Jephson, Stairs, and myself, all watched it for a good while; and all the men turned out to see it. The peaks were covered with snow. The mountain range runs visibly for a long way to the east; a continuation of Mazamboni's hill cuts off the view to the west. This sight directly contradicts Herodotus' view (Rawlinson's translation of Herodotus, page 32), "The theory that the inundation of the Nile is caused by the melting of snows is positively furthest from the truth. As it flows out of Libya through Ethiopia into Egypt, how is it possible that it can be formed of melting snow, running as it does from the hottest regions of the world into cooler countries? Many are the proofs whereby any one capable of reasoning on the subject, may be convinced that it is most unlikely this should be the case."

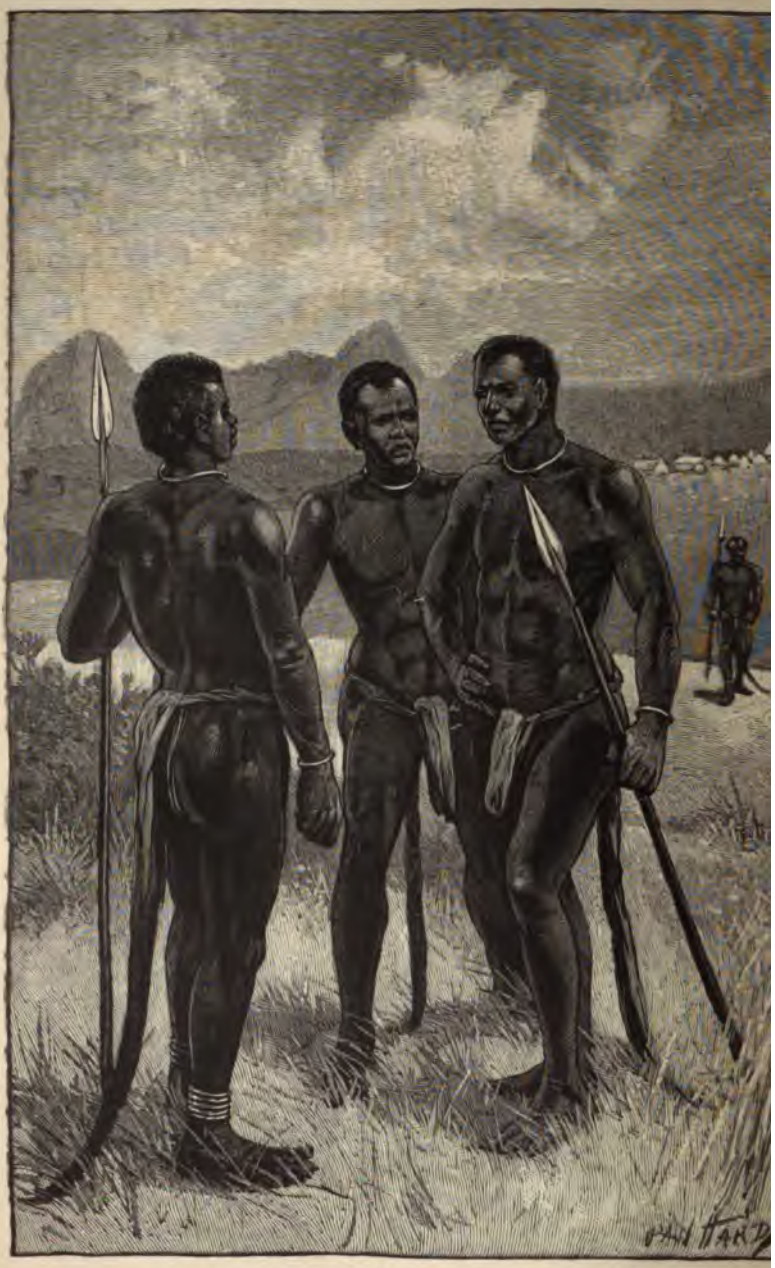
The Pasha tells me that the Monbuttu tribe in his Province inoculate with the virus of syphilis. (This is a tribe quite distinct from the dwarfs.) The rash, and all sequelæ appear very rapidly, but their course is not so virulent.

April 1.—Stairs left this morning for Mazamboni's; the first move on the long and narrow path for home. He had with him 140 loads, most of which were carried by natives. We weighed ourselves to-day, and got the following reults:—

Stanley	145 lbs.
Emin	130 ,,
Jephson	150 ,,
Nelson	140 ,,
Parke	170 ,,

The Pasha and myself took some measurements of those Pigmies whom we were able to find in camp.

April 2.—Mr. Stanley fell in all the men this morning, and gave each a load. He is giving to each of us officers four Manyuema to carry all our baggage—including tent, cooking utensils, food, and clothes—so we shall have to throw away all



NATIVES AT KAVALLI'S SUPPOSED TO HAVE TAILS.

our collections of curios, as these carriers are small and weak. Sadi is keeping all the best men to carry the ivory due to him. There are now about 260 loads in the Expedition. There are 200 Zanzibaris, 21 Nubians, and about 20 Manyuema. All the Pasha's men have now come up from the lake; Nelson brought the last instalment two days ago.

The Pasha is bilious, and a little feverish, at present; this keeps him out of sorts, and not in the best of moods. His spleen is greatly enlarged, and he is very yellow.

APRIL 3.—Some of the Wahuma at Kavalli's wear a tail-like piece of bark cloth, suspended from the waist-belt, and hanging down behind, for this reason they were supposed to have tails—by the natives on the opposite side of the Albert Nyanza. The measurements of the various dwarf specimens gave us pretty constant results. These diminutive human beings live on game, which they kill in the forest; whenever possible, they sell the meat to the Wasongora, *i.e.* the bigger natives, who occupy clearings in the forest, and who are much larger in size, and darker in colour. These dwarfs are great thieves, and often get into trouble by filching the bananas from the plantations of the Wasongora. They are itinerant in their habits—always moving about—and do not appear to live in any camp for more than a few days to a month at a time. They catch their game by means of nets, which are beautifully constructed from grass, or bark fibre, spun into twine. The meshes are diamond-shaped, about five inches in length by three in width; and, both in shape and strength, very like salmon drawing-nets. They are made about 100 yards in length, and nearly five feet in height. When not set for catching game, they are kept in the huts, coiled round a long pole. They are quite as well made as any fishing nets which one sees on the beach near coast towns at home. (Both ourselves and our men find this twine extremely useful in tying up loads, and keeping our kit together, &c., &c.) The dwarfs set the net in the forest in the form of a semicircle; they then drive up the game towards it, and, when within its curve, they shoot at them with their arrows—poisoned or otherwise. Pitfalls in the ground are also used for the purpose of catching game; they make large oblong holes in

the earth, somewhat like an enlarged grave for the deposit of a human body, and narrower below than above; they are arranged on some frequented game-track, and are constructed with great care and nicety. Each of these pits is covered over with small twigs, over which leaves are strewn; so that the elephant, or other desired prey, may walk up to it unsuspectingly. When he steps on top of this, he, of course, drops in; and cannot, by any possibility, extricate himself. Another method of killing game which they employ is by suspending a heavy beam, armed with a very strong, sharp spike of wood or iron, over a game-track. This thing is so arranged that when the animal, in walking along, breaks a vine stretched across the path, the upper end of the beam, previously secured by the distal end of this vine, is set free. This bears the spike, which is generally barbed, and the beam itself is so placed (suspended by the vine coiled round an overhanging branch and drawn obliquely over the path) that its spiked end comes down directly over the middle of the narrow track, and strikes the animal on or near the spine—preferably the cervical: the wound there being rapidly fatal, and totally disabling the victim at once. It is by this method that the elephants are more usually caught; traps, nooses, &c., are also used.

The dwarfs are not superstitious; they compound medicines for the treatment of their more important bodily ailments, and are very fond of cupping. My pigmy has become very confiding, and has picked up Kiswahili rather quickly. She tells me that the people of her tribe rarely eat human flesh, and are ashamed of doing so. So far as my observation goes, their morals appear to be above suspicion. They are of a light brown colour, and their bodies have a denser growth of hair than those of any other natives whom we have met. It is short, and downy in character, and covers the general integument pretty uniformly. Up to this none of us with the advance column, have seen an instance of cannibalism.

His Excellency Emin Pasha and myself made, to-day, careful measurements of the various dimensions of four specimens of the pigmies. They had come from a district about fourteen days' march to the west of Kavalli's. They gave the following results in millimetres:—

—	Tokball (female). Age 20. Steady.	Iti (male). Age 15. Restless.	Female. Age 35. Restless.	Mary Anne (female). Age 15-20. Restless.
Height—vertex to ground	1360	1240	1365	1280
Meatus auditorius externus to ground	1337	1120	1235	1150
Acromion to ground	1116	1021	1101	1090
Sternal extremity of clavicle to ground	1112	1101	1019	1045
Tip of olecranon to ground	870	770	850	855
Styloid process of ulna to ground	650	570·5	691	695
Tip of middle finger to ground	409	450	530	555
Umbilicus to ground	835	720·5	780	770
Crest of os pubis to ground	688	630·5	600	645
Crest of ilium to ground	791	740·5	805	750
Great trochanter of femur to ground	700	650	665	625
Knee to ground	380	360	365	335
External malleolus to sole of foot	46	60	65	50
Acromion to acromion	320	304	295	260
Acromion to anterior superior spine of ilium	237	214	225·5	220
Great trochanter to great trochanter	282	237	228	224
Circumference of thorax below nipples	710	660	710	640
" " under arm-pits	720	660	710	630
" skull above ears	530	535	510	510
External auditory meatus to one of opposite side	140	145	145	135
Smallest transverse diameter above and in front of ears	147	150	145	140
Greatest transverse diameter above and behind ears	156	157	160	155
Greatest prominence of os zymoticum to opposite	140	150	140	145
Breath of nose	60	60·5	65	65
Length of nose	76	70·5	80	65
Outer canthus to outer canthus	120	135	130	140
Inner canthus to inner canthus	46	50·5	50	51
Between angles of lower jaw	119	120	120	125
Length of foot	220	190	212	190

APRIL 4.—Last evening, about 7 P.M., there was a great noise in the camp. Mohammed Effendi, who had been engineer on one of the steamers, worked himself into a desperate temper, because his wife would not return to her marital duties. He used very foul language about the Pasha. After this effusion he came and complained to Mr. Stanley. He told the latter, that the Pasha kept his wife in his house to take care of Ferida (the Pasha's child), and that she would not return to him. Mohammed appeared to be under the influence of *pombé*. Mr. Stanley explained that the palaver was not his but the Pasha's, and that he did not want to have any one

making a noise in the camp at night-time. The man then went off, and declared that he would enter the Pasha's house by force, and take away his wife. Immediately after his departure, the wife came to Mr. Stanley's tent to have *her* say. She was enveloped in spotless white. Mr. Stanley said, that unless the Pasha wished her to speak to him, he would not see her. A messenger was, accordingly, dispatched to the Pasha, to acquaint him with this new phase of the dispute. He soon returned to say that she might speak with Mr. Stanley, who then allowed her into his tent, and asked Jephson and myself to come in too. The woman said that she did not wish to return to her husband, as he had ill-treated her; and said that she was now looking after Ferida, and did not wish to leave her. She was then sent away, and in a few minutes the Pasha came over and said that this man had avowed his intention of entering his (the Pasha's) house at night, and carrying off his wife by force: he then asked Mr. Stanley to protect him. Accordingly, nine sentries were posted around the Pasha's house. The Pasha then told us about how he had taken this woman into his house when an orphan child, and had afterwards given her in marriage to Mohammed Effendi: she was then re-engaged by the Pasha as a nurse for his daughter, with the understanding that she should return to her husband every night. This arrangement has not been kept latterly, and its breach has led to great domestic trouble and vexation. Both she and her husband have very bad tongues, and are gifted with great power of abuse. The Pasha said that he was willing to allow her either to go back to her husband, or stay with him, as Mr. Stanley might think proper to decide; but, at the same time, pleaded that if she was taken away altogether, he would have no one to look after his child on the road. (It is well that we have no scandal journal published here: this tyrannical segment of the press would, of course, as *usual*, be absolutely indifferent to the truth or falsehood of the statements.) A compromise was eventually agreed to by all parties concerned; by which it was arranged that Mrs. Mohammed should attend to the Pasha's nursing during the day, and return to her husband every night.

The Monbuttu (not the dwarfs), circumcise their male children—applying to the cut surfaces, after operation, a paste made by mixing ashes with boiling oil. Circumcision, as an

institution in Egypt, dates back to the most remote antiquity; it existed at the earliest period of which any monuments remain, more than 2400 years before our era: and there is no reason to doubt that the rite was practised much earlier. The Africans generally are inclined to be cleanly, as shown by shaving the head, face, and removing the hair from the whole body. They perform amputations, and apply boiling butter at once to the face of the stump. The Bari people inoculate syphilis as a safeguard against the disease. Syphilis is very common all over the Pasha's province: he says that it must have originated in the country, as it was there when the first European traveller arrived, and this opinion is in keeping with my observations and experience. We certainly have seen the disease in parts of the forest which have never before been traversed by any white man, or even Arab.

The Pasha's people are very sallow and sickly in complexion, especially the Egyptians, who are commonly called "Yellow Bellies;" nearly all of them have enlarged spleens. They do not seem to suffer much from fever; although I have seen plenty of fever, with very high temperatures, in other places, among representatives of all the different tribes in Equatorial Africa. The Pasha treats these enlarged spleens by first rubbing over the skin of the splenic region with ointment, or solution, of tartar emetic; and then applying oil of rosemary.

A wedding festival in the Pasha's province requires eight days to complete, as there are a number of preliminary ceremonies which must be performed during the time.

I now feel fever coming on, as I write; and I know that I will be bathed in perspiration within a few hours. Nelson and myself have arranged with the Pasha for the services of a cook, whom we are to feed and pay—the Zanzibaris being unable to prepare even porridge. I remember that when I first talked over the arrangements of the Expedition with Mr. Stanley, at Cairo (in January, 1887), I asked him whether he was bringing good cooks with him, observing that they were necessary for the health of the Expedition. My suggestion, I told him, was founded on my experience on the Nile, when serving with the Guards' Camel Corps. This was the only corps which was fortunate enough to possess the services of a good civilian cook for the whole campaign, and it was

the only one which had no officer invalided home. This cook was named Carlo, he appeared to be a Greek Jew, and gave no additional trouble. The Zanzibaris usually just scald the meal with boiling water; this has the effect of converting it into a heavy, unleavened, starchy mass, which can only be swallowed by a series of spasmodic jerks, and requires to have the gullet well lubricated at intervals by copious draughts of water.

Since our dwarfs emerged from the shades of the forest into open daylight, they have been gradually pining away, and are constantly down with intensely high fever. I told my dwarf long ago that she might remain in the forest, but she preferred following the caravan. I believe that the debility and fever are chiefly due to the unaccustomed exposure to the direct rays of the scorching sun, and the occasional chilling breezes—both of which were effectually excluded by the dense foliage of the primeval forest. The entire caravan has suffered more from fever on the open plain than it did while in the forest.

APRIL 5.—This morning, Mr. Stanley came suddenly out of his tent, about 10 A.M., blew his whistle, and in a very determined way ordered each of us to fall in with our respective companies—also to have our own fire-arms ready in case they were wanted. It was very evident from his appearance and gesticulations that something was up; none of us had, however, the faintest idea what was the matter. It might have been merely a demonstration, to impress the outsiders with his force and power of command; or it might have been some necessary proceeding, to check a conspiracy just discovered. All our companies were in their places in five minutes. Grasping his rifle with energy and resolution, he roared to the men that he was *Bula Matari* to-day, ordered them to have the tents struck, and all things packed up at once. He then asked the Pasha to assemble his people in the square, whereupon the latter sounded the *assemblée;* and, after a little dawdling, all his officers, soldiers, and clerks, appeared on the square. Mr. Stanley then told them in a loud voice—using the Pasha as interpreter, that all who wished to follow him were to fall in on one side, and those who would not follow were to fall in on the other side. The immediate result was, that they all fell in on the side of following us—thereby announcing their intention of accompanying us to Egypt. These trembling, feeble, procrastinat-

ing, useless villains, really did appear to have been stirred up to reason by the promptitude of Mr. Stanley's action: they have, at all events, given a definite answer; and, probably, for the first time in their lives. Some of the Pasha's soldiers were afterwards made prisoners for refusing to lay down their arms when ordered; a few of these men are the Pasha's own servants, who had been with him for years, and on whose faithfulness he had been weak enough to rely. When this was all over, our tents were re-pitched, and everything was quiet again.

In the evening, I spoke to Mr. Stanley, who seemed to think that he had done a good day's work: he told me that the reason for the demonstration was an attempt on the part of the Pasha's people to steal rifles from our Zanzibaris during the night. Our men, however, did not use their rifles, and could not identify the midnight thieves. Mr. Stanley became aware of all this, as he has a perfect detective system arranged among the Zanzibaris. We were not at all surprised to hear of this attempt on our fire-arms, for the Pasha's men had already stolen one of our rifles; and we had reason to suspect further treachery on the part of these scoundrels whom we have come so long a way to relieve. On this information, Mr. Stanley immediately went to the Pasha and told him the story, and also made the two following proposals: First, to assemble all the people in the square, and find out who were the individuals who had made the attempt to steal the rifles, and who intended going with us to Egypt, and who did not. Second, to march off, and camp about two miles off; so as to obviate the continuous danger of having our rifles stolen—those who wanted to come with us might come, and those who wanted to stay might stay. The Pasha replied that he was unable to get his things ready for a sudden move, and then Mr. Stanley gave him till 8 A.M. next day; but he replied that he could not be ready by that time.

When I had finished my conversation with Mr. Stanley, I went over and interviewed the Pasha, and had an opportunity of hearing his side of the story, which differed from that given above in but very few details. He said that he did not agree to Mr. Stanley's first proposal, because, when the latter made it, he had also said that when the Pasha's people had all fallen in, they should then and there be disarmed; and he

feared that, if an attempt was made to enforce this suggestion, the result might be a general massacre, if they refused to comply, as they would be likely to do. He had refused Mr. Stanley's second proposal, because the latter had made it a *sine quâ non* that the Pasha should keep it a perfect secret. The Pasha said, "Ah, but I wished to tell Casati, as he had no carriers, and would be very much put about;" adding, that Casati had stuck to him while he was a prisoner, and that he would not like to do anything without having his consent. I must say, that I thought both these objections perfectly absurd: because it was Mr. Stanley and not the Pasha who was supplying carriers to Casati; and the latter would have the same warning as the officers of the Expedition, so that he really would not be handicapped in the least degree, and should have no real grievance.

When the Pasha had refused to move in accordance with either of these proposals, Mr. Stanley then said, that if any blood should happen to be spilt, it would be on his (the Pasha's) own head. All this had occurred in the morning, directly Mr. Stanley had heard of the attempt to steal the rifles, and before he had blown his whistle as the signal for the men to fall in. When the Pasha was again asked to assemble his people, he emerged from his hut, with his field boots on, and ready to march: he also had all his boxes tied up, and appeared ready to start at once. He ordered his bugler to sound the *assemblée*, as described above. During the diplomatic intercourse which followed, the Pasha interpreted with a great deal of energy; and asked Mr. Stanley if he might tell his people that if any of them were seen roaming about the camp after 10 P.M., they would be shot by our sentries. It is evident that the Pasha would like to remain on here, adding to his collections, and not caring much about having kept us all these months waiting for him. He knows that he cannot remain here alone with his people, for his life would be as uncertain as if he went back to his own rebels in his province: accordingly he sees that he has no other alternative left but to come out with us. He has often told me that he would like to remain on in his province, provided he could get his books and letters periodically, as he had been accustomed to—from Zanzibar, through Uganda and Unyoro: this is, of course, now impossible, on account of the insurrection in Uganda, where

the Arabs are fighting to place Karema on the throne instead of the hereditary heir Mwanga, who has been baptized into the Christian religion by the French priests. These candidates for the regal dignity are both sons of the great Mtesa. Even, however, if the Pasha could receive his letters in the old way, he has nowhere to go, as his own people are his worst enemies: they would treat him as a prisoner, or, perhaps kill him on the slightest irritation. Even if they did receive him back again as their Governor, the ammunition which we have brought for his relief would last him only a couple of months against the invasion of the Mahdi's people. His own people have already sacked his ammunition stores, and taken away everything—including the thirty-three boxes of ammunition which we handed over to him in April, 1888. Under all these circumstances, it would be simple madness on his part to think of remaining; and I am sure that he has at last recognised this fact, and that it accounts for his unexpected promptitude in packing, and lacing on his long boots, so as to be in readiness to accompany the Relief Expedition.

From this time, thirty-two of our men were constantly on duty during the night—some posted as sentries, and some patrolling the camp. This day's proceedings will, I believe, have a good effect on these sluggish, procrastinating, and designing people, over whom the Pasha has quite lost his control. Looking at the performance as an uninterested observer, I should say that it was a most pitiful display of vacillation, and want of determination and initiative action on the part of the Pasha; while the violent display of temper assumed by Mr. Stanley, which would have been very unbecoming indeed among respectable or reasonable people, had become absolutely necessary, in order to make these wretches seriously think, and decide what they were going to do. The whole demonstration may be described as an effective dramatically arranged farce: the striking of the tents, Emin Pasha's appearance in travelling costume, the *general* parade, the proposed march to another camp, the immediate refusal, and the subsequent remaining on without being asked.

APRIL 6.—Yesterday morning Mr. Stanley found a large quantity of ammunition, beads, and matako in the possession of Sadi, the Manyuema chief; they had been stolen from the Expedition.

On Mr. Stanley's suggestion, the Pasha assembled his people this morning (at 7.30 A.M.). He himself did not appear. They all fell in, by their families, and with their loads; so that an accurate account might be made as to how many carriers would be required.

Men		190
Women and children		380
Wives of Egyptians	84	
Children	74	
Female followers	187	
Infants of above	35	
Total number of Emin Pasha's people		570
„ loads		448

The total number of Wangwana and Manyuema is about 350; this includes those who have gone on with Stairs in advance. Accordingly, our Expedition now numbers about 1,000 souls.

APRIL 7, 8.— . . . . .

APRIL 9.—A great deal of dancing has been going on here for the past two days: a kind of farewell festivity, as we are taking our final departure on to-morrow. Yesterday about twenty of the Wahuma women collected from the neighbouring districts, and danced in front of Mr. Stanley's tent. This was a great compliment to our chief. Their movements were, however, rather clumsy. The performance was somewhat like the *nautch*, with a peculiar and characteristic voluptuous wriggle of the buttocks. The great object to be attained in the movement was to be able to shake the green banana leaves which each had stuck in her belt, "fore and aft." One branch was adjusted posteriorly in the gluteal fissure; another (smaller) one hung down in the median plane of the body in front. In the saltatory movements, these decorative appendages are shaken: both antero-posteriorly, and from side to side.

D. V.! we all start to-morrow. Our hearts are sick of the long delay, and of the uselessly laborious work imposed upon us of fetching up so many worthless articles from the Lake. The one great redeeming feature of our stay here is, that Kavalli and his people could not possibly have treated us with more kindness since we came.

On yesterday afternoon the wife of Omar, the Nubian chief,

was insulted by one of the Zanzibaris. He at once came with his complaint to Mr. Stanley, who, in order to give satisfaction to all parties concerned, had a ring immediately cleared, and allowed Omar and the Zanzibari to have it out. The Zanzibari was immediately knocked over; then Omar challenged *any Zanzibari* to come forward, and take the place of the defeated champion. One did come forward, but was soon sent sprawling; then another, who experienced the same fate. Finally, two Zanzibaris came forward together, as they seemed to be growing anxious for the common honour of their tribe. Omar floored both! The row then extended, and rapidly developed most of the classic features of a Donnybrook-fair festivity; it left the five Zanzibari champions with bruised and wounded scalps, and the Nubian but slightly hurt. Athletic sports were instituted to-day; and it is a fact worth noting, that the white man (Jephson) could run away from any of his black competitors.

CHAPTER XXIII.

TREASON AMONG EMIN'S PEOPLE.

We commence our journey to the coast—Nelson sets fire to the huts—Perfume of my Monbuttu woman—Failure of native carriers to perform their contract—We obtain fresh carriers—Laziness of Emin's people—Shukri Agha, commandant of Mswa Station overtakes us—Hari, my factotum—Lack of hair on the faces of natives—Mr. Stanley ill for the second time with a violent attack of intermittent fever—My anxiety about him—The Pasha assists in the treatment of my patient—My supply of morphine tabloids almost exhausted—Method of making bread by Emin's people—Nelson an excellent cook—Mr. Stanley's condition and diet—I am laid up with bilious remittent fever—Our leader suffers a relapse—Illness of all the white officers of the expedition owing to bad camping ground—We change our camp—Emin assists me in my professional duties—Stairs and some men forage for food—Mazamboni's stinginess—Recovery of Mr. Stanley—Heavy rains—Weights of Stanley, Nelson, and myself—A native gives us some information regarding Ruwenzori—I manufacture some candles—Annoyance by hyænas—Capture of Rehan and other deserters from the Pasha's camp—We hold a board of inquiry into Rehan's case, and find him guilty—Execution of Rehan—Distribution of rifles and ammunition to the men—Letter from Selim Bey at Tunguru—Discussion of the same—We intercept letters from the Pasha's people to the rebel officers in Equatoria.

APRIL 10.—About 6.30 A.M. this morning, all the men fell in, and received their loads. Those who were in any way "unfit," had their loads carried by native volunteers, about 350 of whom were distributed among the Pasha's people; and many ran alongside our men, and carried their loads for them at intervals, for the Wangwana had made many friends amongst them. Edi, a Zanzibari, who suffered from well-marked heart disease, and consequent congestion of the lungs, was left behind with Kavalli, as he was unable to march. Kavalli promised to look after him, and suggested that if any Manyuema people came into this country for ivory he could accompany their *suffari* (small expedition) to Zanzibar, when he had recovered sufficiently to undertake the fatigue of the journey.

Our caravan left at eight o'clock, all the Pasha's people moving

off in rear of No. 1 Company. No. 4 did rear-guard. When all had cleared out of camp, Nelson returned with a party of men, searched all the huts, and afterwards burnt them. The camp was strewn all over with pots, trunks, bedsteads, tin baths, chairs, and all sorts of rubbish in the basket line; grinding-stones, and one enormous copper-pot, were also included in the non-transferable material. We marched to Mpinga's; the rear-guard arrived about three o'clock, having been delayed by the cattle, which are not good travellers. On reaching camp, huts were built for those who were unable to procure shelter in the native domiciles. Many things had been discarded on the line of march, as the carriers were quite unable to convey the enormous loads which had been put on them by the Pasha's people. Some of the latter carried even donkey-saddles: a ridiculous incumbrance in the present stage of our journey, as no use whatever can be made of them till we get to the south end of the Victoria Nyanza, where Mr. Stanley has arranged to have some thirty or forty of these animals waiting. The Pasha has two donkeys, one for himself and one for the nurse Saseta; there are also about half a dozen other donkeys among the Pasha's people. There are a great many children accompanying us now, and I greatly fear that there will be a very high mortality among them; as the Pasha's people are not very smart at building huts, or preparing any form of extemporaneous shelter, on the short notice of camping for a single night.

APRIL 11.—There was a general parade yesterday evening. Last night was extremely stormy and wet; both Jephson's tent and mine were blown down, Nelson's and the Pasha's very nearly so. I called my Monbuttu woman and my boys to come into the tent, and hold the poles; while I drove home the pegs on the outside. I will never forget the "gorgonzola" perfume left behind in the tent by the Monbuttu; it was necessary to lift the walls, and air the tent thoroughly, in order to remove it. N.B. The Pasha tells me that he can recognise different tribes by their characteristic odours.

A former clerk at Tunguru, Ibraham Effendi, lost one of his women last night. The Pasha's people are an utterly worthless lot; they certainly are not value for the trouble that has been taken to relieve them.

APRIL 12.—Jephson and Nelson returned about 5 P.M.

yesterday. They had travelled about forty miles, and no one was injured. Meat rations were distributed to every member of the caravan, including the natives who accompanied us and who carried loads; these included people belonging to Kavalli, Mwité, Mpinga, and Mazamboni, who are the most important chiefs in this part of the country. This morning, however, true to the reliability of the Negro, very few of these local carriers turned up (although they had yesterday received several cows from Mr. Stanley), leaving seventy-eight loads without carriers. The Pasha, Mr. Stanley, Jephson, and Bonny went on in the morning to Mazamboni's; leaving Nelson and myself to try and collect carriers, and follow them up with the loads. We ascended the hill to Mpinga's house, and there we managed to get fifty-four carriers for the seventy-eight loads. We then asked the Pasha's people what they should do, suggesting that they should throw some of the more worthless loads away. The majority agreed to this proposal. One clerk, Yusuf Effendi, refused his carriers as insufficient for his loads: we said, "Very well, stop here." However, when we had given carriers to the others, he reconsidered his position, and came and begged for two. These rascally clerks have a much better supply of carriers than Mr. Stanley or his officers; but they have not yet learned to take the trouble of selecting and carrying merely what is necessary.

On the march, I noticed one boy and a man, belonging to Yusuf Effendi, who carried no loads; also a strong woman belonging to Ibrahim Telbass Effendi, enjoying similar ease; and one man and about six women, belonging to others. So that although these people threw away their loads, there were many serviceable hands in the party who had nothing to do but carry them, and were prevented from doing so merely by pure laziness.

We got away about noon. Nelson in the rear, and myself in the advance. About three o'clock, we reached Mazamboni's camp. About an hour after leaving Mpinga's, Shukri Agha, commandant of Mswa, caught us up, with only five or six followers; this shows the disaffected state of his soldiers, who were supposed to be the most loyal men of all the Pasha's disciples. We formed two separate camps, adjoining each other: the "Relief Expedition" in one, and the "Relieved" in he other.

Hari, my factotum, a very fine, dark-haired, handsome-looking man, would call out (as he has been accustomed to do) in the morning and evening for the sick who could walk to come and see me; also, to give the men the usual sanitary caution about the cleanliness of their huts, and not to wash up-stream, &c., &c.

I have been again noticing to-day, as we continued our march, how rarely, at any period of our journey across this country, we have seen a native with either moustache or beard. They have little or no hair on their faces.

April 13.—I was called at 2 A.M. this morning to see Mr. Stanley, who was suffering from severe pain over the gastric region: he was sitting up in bed, and said that he had intended to take my advice several days before; but had put it off too long, owing to the extra work thrown on him. He said that he feared he was getting the same sort of attack which had brought him to death's door at Fort Bodo, and that he thought it was promoted by taking quinine (ten grains per day) for several days previously, together with the indiscriminate use of medicine. I at once gave him some castor oil, applied stupes and half a grain of morphine (with some atropine) hypodermically (at 4 A.M.). The pain was somewhat relieved by the treatment. At 7 A.M., however, I gave another hypodermic injection of morphine. He drank some milk, which was quickly rejected, with a great quantity of bile. He afterwards drank a little tamarind water, which also failed to rest on his stomach. I then gave him a drink prepared by mixing solutions of cream of tartar and citric acid, and adding one-fifth of a grain of acetate of morphine. About noon the fever rose, and reached its highest in the evening, when he was in great agony; the beads of perspiration rolling down his forehead from the excessive pain. The pulse was slow and weak; the tongue coated with a thick white fur—excepting along the edges and at the tip, where it was bright-red in colour. I am sitting up with him for the night, as I am afraid that he is in for a very serious attack.

April 14.—Mr. Stanley spent a very restless night, although he had half a grain of morphine hypodermically at bed-time. He had another paroxysm of the intermittent fever this evening; it was very intense about 3 P.M.: the face became flushed, and the pulse full and rapid. To relieve

his thirst I give him tamarind water—made from the fruit we picked up near the Lake—and solutions of cream of tartar and citric acid. I also give him tabloids of bismuth and sodium bicarbonate, three or four times a day—previously dissolved in water. I am very anxious about him, and will sit up all this night with him again.

APRIL 15.—Mr. Stanley slept fairly well last night, but, about 7 A.M. he got a violent paroxysm of pain, which was very suggestive of the passage of a gall-stone. I administered a hypodermic dose of half a grain of morphine, as it is the only thing which gives him any relief, and applied large poultices of Indian meal. The pain, however, continued to be so severe, and his condition was so weak, that I felt the responsibility of my position terribly, and I asked him if I might get the Pasha to see him with me, as he might be able to recommend something which would allay the pain. He agreed to this. The Pasha, on seeing him, recommended to continue the treatment, and also to rub a liniment over the liver containing—

Camphor	grs. xv.
Sesame oil	ʒ iij.
Liq. Ammon. Fort..	ʒ i.
Tinct. Opii	ʒ iij.
Sp. Rectif.	ʒ ij.

To be rubbed in over the seat of pain, before applying the poultice.

I am rather in a stew about my morphine, as I have but a few more tabloids left; and it is the only thing that subdues the paroxysms of agonising pain, from which my patient suffers so terribly. Sometimes I give him small doses, so as to economise my supply, but he invariably detects my stratagem; although I have tried to keep it a secret, as the very fact of getting a hypodermic, even of water (and no morphine) will quite relieve the minds, if not the bodies, of some patients for a time. At 10 A.M., I gave him two-fifths of a grain, as he was perspiring profusely from intense pain, and I was greatly distressed to see him in such a condition. The temperature is not very high—only 100° F.; the thick white fur on the tongue has diminished somewhat, but he is extremely tender over the region of the stomach. His liver is evidently greatly congested now; it is much more enlarged

than it has been, and there is a good deal of tenderness over the whole hepatic area.

All the Pasha's people prepare their bread by making matammah meal into a gruel of thin consistence; and then pouring out this gruel on a flat piece of iron placed over the fire. As each thin cake is thus prepared, it is taken off and placed on a plate. When ten or fifteen of these thin laminæ are laid one over the other, they amount, collectively, to about the thickness of a cabin biscuit; and, although non-aërated, they really make a very palatable bread—at least it appears so to one who has lived a year and a half in the African forest on bananas; I believe it must be the unleavened bread spoken of in the Scriptures. They always rub a little grease on the surface of their somewhat primitive pan, before pouring on the gruelly mixture. This reminds me of the fact that there is nothing that we missed more in our cooking operations during the past eighteen months, than some grease. I have Nelson's testimony to the effect that it is quite impossible to cook without fat, and I unhesitatingly pronounce him one of the very highest authorities on this important subject that I have met with: his invariable rule is one quarter of an hour to the pound for a roast, a boil, or a stew; as for cutting up a beast into proper joints he has no equal amongst us.

April 16.—Mr. Stanley slept pretty well last night. Several poultices were applied in succession, over the gastric and hepatic regions. In the forenoon, I gave half a grain of morphine hypodermically. He drank his potassium bitartrate and citric acid mixture. The morning temperature was exactly 100°; at 4 P.M. it was 100·2°: at 7.30 P.M., 102·2°. He is terribly blanched, and so weak that he is unable to attempt to move out of bed, or even to sit up; he has to be fed through the india-rubber tube which I have taken from my pocket filter. (Vide No. 10 sketch on p. 500.)

April 17.—Mr. Stanley slept well during the early part of last night; he then became restless, and I gave him a draught at bed-time, containing 25 grains of chloral hydrate. At 3 A.M., as he was suffering a good deal of pain, I gave him half a grain of morphine hypodermically. He is now able to lie on either side, which I hail as a good sign. He had another attack of the intermittent fever this morning, and I then gave

him two-fifths of a grain of acetate of morphine. He has not been delirious during this illness.

April 18.—He slept well, from 9 P.M. till midnight, last night; then lay awake until 2 A.M., during which time I applied turpentine stupes, and also gave 35 grains of quinine, beaten up with some raw eggs. At 5.30 A.M., I gave him a hypodermic injection of morphine. He says that he is much improved, but still feels very weak.

April 19.—About 100 Zanzibaris left here the night before last, accompanied by some of the Pasha's people, to get some food; they returned about 4 P.M. yesterday. Mr. Stanley has a cough this morning, so I gave him squill and ipecac. He still continues the bismuth and sodium bicarbonate. He sat up in his chair for a couple of hours this morning; the pain is but very slight now.

I have felt very seedy for the past three days.

April 20.—My temperature this afternoon suddenly rose to 105°. My renal secretion became very dark—exactly of the colour of Guinness's stout.

April 21–24.— . . . .

April 25.—I have now been confined to bed since the 20th, with a pernicious form of bilious remittent fever—of a precisely similar type to that from which I suffered at Fort Bodo, but much more severe. I feel very weak all over, and am very much reduced in weight; I was quite florid before this attack, and now I am pale and blanched. It is a very sharp attack indeed, but now I know that I am safe for recovery. The Pasha and the others were very attentive to me.

Yesterday I managed to get to Mr. Stanley's tent—about twenty yards off—with the assistance of Muftah, my gun-bearer, and a stout stick. The Pasha had come to ask me to go and see Mr. Stanley, as he was so unwell, and was very desirous that I should see him. I found him looking very badly; his cheeks were sunken, and his liver was enlarged, and very tender on pressure. He attributed his relapse to some error in diet which had again upset his stomach. His diet since he became ill has been of the simplest kind, milk, beef-tea, chicken-broth, arrow-root, and some water—I could never succeed in making chicken-jelly, but can manage the beef-jelly fairly well—he has been taking a great deal of morphine. When I asked him how he slept, he said, "Very

well, after those two grains of opium." He had had three-quarters of a grain of acetate of morphine during the afternoon. Yet he took two grains of opium at bedtime to allay pain, without asking either the Pasha or myself. Bonny had been nursing him during my illness. When I saw his condition, I cautioned him not to dose himself in private, and to take those medicines only which I would give him. I then gave him a mixture containing :—

Sodii sulphat.	. . . . .	℥ i.
Sodii bicarb.	. . . . .	ʒ p.
Acid. citr. .	. . . . .	qs.
Aq. Laurocerasi	. . . . .	qs.
Aquae	. . . . . ad	℥ vi.

One ounce (half a wine-glassful) every morning.

APRIL 26.—I also ordered twenty-five grains of chloral, to be taken at bed-time. I went to see him to-day, and found him a good deal better. He is to live for the present on milk and water, with a little fresh beef-tea at long intervals, a little arrow-root, and an occasional raw egg. He had a really good night.

Bonny, who has been nursing Mr. Stanley since my illness, has a sharp attack of fever to-day. Nelson is down with bronchitis, and a bad cough; and Jephson has been having very severe remittent fever during the past week, and is just barely able to crawl about. Accordingly, we have all come to the conclusion that this place is not quite so salubrious as might be desired: Stairs went off with a party this morning to try and find a good site for a camp, not farther off than one or two hours ahead. I think a change of camp will be beneficial to all of us, and especially to the Pasha's people, who foul their nest very soon. Of course we invalids can only crawl; but it is good to change camp as often as possible, especially with such a crowd as we have got with us now, and to be moving onwards. Change of air, variety of scenery, and some work are good for all of us. I gave Nelson a tonic mixture—containing carbonate of iron and quinine; it is the best I could squeeze from my very limited store. He has never yet quite recovered from the effects of his life of starvation on the Ituri and at Ipoto, although he began to pick up from the first moment that he got some meat added to his diet.

The Pasha has been very kind, and comes over regularly every day to see us—sometimes even three times. He is

really very well up in his work as a medical man, considering what he must have forgotten during the past thirteen years of African life. I feel even his presence a great support to me, my work being now a great responsibility, having all these white officers, and over 1000 black men, looking to me for advice. I only hope that we whites will live to reach Zanzibar at least. I would also like the blacks to live through this journey, but I know that a large number of them are bound to sink on the line of march: from fatigue, exposure, want, disease, wild beasts, &c. I wish Mr. Stanley were well enough to proceed with the march again, as a standing camp is always depressing, and generates more sickness. I am afraid that we will not be able to get away sooner than the 20th of next month, or thereabouts. Mazamboni is very stingy, and his people bring us little or no food for our caravan. On this account Stairs, accompanied by all the available men in camp, visited a large banana plantation yesterday, about two hours from here. They brought back enough matammah and bananas to last for five days. There were nine cows killed to-day, to be distributed throughout the entire camp.

Captain Casati is very retired; he has never come over to this camp, even to enquire for Mr. Stanley, or any of us.

Very heavy rain has been falling during our stay here. We do not, however, mind it much, as we can always dry ourselves again on the same day—so unlike the forest.

APRIL 27, 28.— . . . .

APRIL 29.—Mr. Stanley got up to-day, for the first time since his relapse; he dressed and went out to a verandah about twenty yards from his tent, which had been specially made for him. He was carried in his own chair, and remained out until 4 P.M. He says that he feels himself improving—slowly, but steadily. He is still very weak; and, unless he takes care of his stomach, he is very likely to get relapse after relapse; which, after some time might hopelessly undermine his constitution. However, for a man who has lived so long in Africa, his liver and spleen are comparatively healthy.

MAY 1.—Mr. Stanley has been able to sit up, both yesterday and to-day, from 8 A.M. till 4 P.M. He eats porridge made with banana flour and milk. It is very light and digestible, and has more flavour than arrow-root. It is also very nutritious. We whites have good reason to know this fact now, as we have

mostly lived on banana flour for the past two years. His tongue is still coated with a white fur, so that it will be some days before he can have chicken to eat; as the condition of the tongue is the most reliable index of the state of the mucous membrane of the stomach. He is now able to walk out of his tent to the barazan and back with the aid of two sticks, but his limbs are still very weak and shaky. He entirely refuses the arrow-root now, taking the banana porridge in preference. He slept very well last night, and looks a good deal brighter this morning.

There was heavy rain last night, and stunning thunderbolts repeatedly shook the place. I was quite snug in my tent; only a few spattering drops of rain came through the window. It is now decided that we will remain here five days longer.

We were all weighed on yesterday; the following results were obtained:—

Stanley . .	132 lbs., having lost 13 lbs. since leaving Kavalli's on the 10th of April, only 20 days ago.	
Nelson . .	148 lbs., having gained 2 lbs.	„ „
Parke . .	169 lbs., having lost 1 lb.	„ „

The Pasha has found a native who tells him of the existence of hot springs a few days from here; in the direction of the Ruwenzori Mountain Range, and Usongora Lake. He says that the mountain can be ascended to the snow-line, but the upper regions are occupied by white men, who live as cannibals; and that, accordingly, the natives are afraid to ascend on account of them. We have now got a couple of hundred head of cattle, and several goats; so that we are rich in meat for our march. I have just prepared a supply of candles for the march, by making wicks of thread or shreds of linen, putting each into a candle-mould made from hollow cane, and pouring into the latter melted bullock's fat, mixed with a little bees' wax. The mould is then placed for a few moments in cold water, when the contents solidify; and the candle so prepared can be easily removed, and presents a fairly respectable appearance, somewhat similar to that of a "half-penny dip." It is most dismal and dangerous here at night; as hyænas are always prowling about close to our camp, making a most mournful cry, and ready to pounce upon any-one who may venture beyond our enclosure.

MAY 2.—About 1.30 P.M. to-day, the exploring party returned

from the Lake; to which they had gone in search of several deserters from the Pasha's camp. Koor, one of the Pasha's "faithfuls," captured Rehan, the man who had been given by the Pasha to Mr. Stanley in May, 1888, to return to the rear column. He had run away some days ago, and stolen with him one of the expedition rifles, with forty-six rounds of ammunition; forty of which he had fired off *at friendly natives* on his way to the Lake. About a dozen other runaways were also captured. Mr. Stanley rewarded the captors by giving each a *doti* (about twelve feet in length) of *satini* cloth. (This satini is an inferior kind of calico.) He gave two doti to the man who had captured Rehan. The officer of the party reported that only these few people were to be found at the Lake, as all the rest had marched back by the shore to Mswa. The native chief Katonza had told them that on the way through Melindwa's country several of the fugitives had been killed by the natives—all, indeed, except those who had rifles to defend themselves. The camp on the Lake shore had been burnt; none of the fugitives had remained there. Rehan was placed under a guard.

Mr. Stanley remained out till 5 P.M. to-day. He is improving, but still lives on milk and banana porridge, with a cup of arrow-root and a cup of chicken broth, every other day.

Shortly after the scouting party had returned to-day, Mr. Stanley told Stairs that he was to convene a board of inquiry into the case of Rehan, and report the result to him. This was accordingly done. The board was formed, with Stairs as president; the members—Nelson, Jephson, and myself. We examined two officers—Awash Effendi and Abdul Wahud Effendi; also the Pasha's servants Sayd, Busheri, and Rehan. All of us were unanimous in finding him guilty on both charges: 1st, inciting the Pasha's soldiers and others to desert; 2nd, deserting, and stealing a rifle. After some hours spent in inquiry and deliberation, we all returned to Mr. Stanley's tent—with a written report of our proceedings, and our verdict. We recommended hanging. Mr. Stanley immediately proposed that if a Muniapara (a chief) could be found responsible for his custody, he might be utilised in carrying a load to the coast. We then protested that it would be impossible to hold the Muniapara responsible for the safeguard of Rehan, as his duties would call him away from time to

time, when he would be obliged to leave his prisoner alone. Mr. Stanley also suggested that he might be chained with other prisoners, and be made to carry a load as we went on; but the objection to this arrangement was that he could communicate with other rebels, and continue his treason; also that as he is so extremely cunning, he would be clever at releasing himself, and might get away altogether, so that he would have to be secured in a way that would absolutely ensure his perfect safety. We then discussed the question of who should look after him when in camp after a march, and we came to the conclusion that he would be neglected; the necessary result of which would be that he would either die or escape. Accordingly we decided that the only judicious course under the circumstances, treason being rife, would be his immediate execution. When this decision was finally ratified, the whistle was blown, and all our men fell in close to Mr. Stanley's tent, the Pasha's people collecting at some distance, and anxiously watching the ceremony. Mr. Stanley then read the charges, the evidence, and the verdict, and proceeded to pass the sentence. It was a moment of tragic excitement. In reading the sentence, Mr. Stanley stood up for the first time since his illness; and, while gesticulating with great energy, his hat fell off, and, in trying to catch it, he himself fell to the ground, exhausted by the exertion, which was too much in his present feeble condition. His worn and blanched appearance made the scene most impressive.

When the sentence was passed, the prisoner was immediately seized and brought to the nearest tree, where Stairs, Nelson, Jephson, and myself superintended the execution. The rope used had become so rotten, from exposure to wet and damp, that it broke when the culprit had been hoisted to a height of about a foot from the ground. Four plies were then plaited together, and he was drawn up to a height of fourteen feet from the ground, in which position the body was left suspended for the night.

The Pasha's people turned out in great numbers to see the execution. When the rope had broken, and the culprit Rehan had fallen to the ground, I talked to him, as I was interested to observe what was his mental state in the wretched position in which he was then placed. I found him utterly indifferent and apathetic; not merely passively or stupidly so,

but that he did not seem to mind it in the least—another remarkable illustration of how little these extraordinarily fatalistic people seem to care about their lives. At Ipoto, I saw a black man go to sleep while a knife was being sharpened for the (professed) purpose of cutting his throat!

MAY 3.—Mr. Stanley made arrangements to-day that Stairs and Jephson should go with a party for food.

MAY 4.—Mr. Stanley is much better to-day. The fur on his tongue, which had seemed to become a "fixture" there, is clearing off.

MAY 6.—Mr. Stanley had two tiny chickens to-day, the first meat he has had since his illness began.

MAY 7.—All our people rested in camp to-day, as we are to start to-morrow. This has been a very nice camp, but there are a great number of hyænas about; they come in among our tents and huts at night, and make a very mournful cry. They have already taken off a few children belonging to the Pasha's followers.

Each Zanzibari who carries a rifle has been supplied with thirty rounds of ammunition; the chiefs getting a double portion of sixty. About twenty Remington rifles were given to the Pasha's people; this, with what they had got already, makes their stock of rifles up to about fifty. They have five and a half boxes of ammunition.

About 5 P.M., some of Kavalli's people arrived, bearing letters for the Pasha; one of them was from some officer at the lake, who had arrived in the small steamer which had come from Selim Bey. The latter is somewhere about Tunguru. Selim Bey's letter was to the effect that the Pasha was treating his soldiers badly, making them carry loads on their heads, &c.; and it went on to say that he (Selim Bey) had decided to send twenty soldiers and three officers to inquire into the truth of this report, and bring him back the facts about it. These soldiers had ascended the hill from the lake, and were this evening at Kavalli's, about six hours' march from here. The news made us all feel anxious; as we thought that we might now be again delayed by these wretched, helpless, thoughtless Egyptians. Mr. Stanley called Stairs, Jephson, Nelson, and myself into his tent, and told us about this. He also told us about some letters, from the Pasha's clerks and officers in our camp to their friends in Wadelai,

which had been intercepted on the way; containing all sorts of lies about us, and the treatment they had been receiving at our hands, and asking for even one company of soldiers, which would be sufficient to delay our progress till a larger force had arrived, when they hoped to seize ourselves, our ammunition, and all our belongings. Ibrahim Effendi, one of my patients, had signed his name to one of these documents; Shukri Agha had also written a letter, but it was dictated in a much more manly tone, telling Selim Bey that we were waiting at Mazamboni's, for a few days, till he should come up; and recommending him to follow us as fast as he could. There are many of the Pasha's people whom we should be only too delighted to get rid of—*e.g.*, Ali Effendi, an old invalid, who can never walk from here; and whose son-in-law and friends are too lazy, and too selfish, to give him the least assistance. I mentioned to Mr. Stanley that it would be wise to disarm all the Pasha's people, give the good Remington rifles to the Manyuema, and the Manyuema muskets to the Pasha's people. The latter are old tower muskets, and would not be so dangerous weapons to use against us—in case that these soldiers joined with those who were now coming up behind us, and tried to overcome us and our Expedition, which we think very likely to happen one of these days. Our leader, however, always has his own silent plans; and seldom, if ever wants advice. He had two small chickens to-day, also some arrowroot, porridge, tea, and milk.

CHAPTER XXIV.

FROM MAZAMBONI'S TO THE ALBERT EDWARD NYANZA.

Our departure from Mazamboni's—Mr. Stanley much improved in health—We bury some surplus Remington ammunition—Ibrahim Effendi and other Egyptians return to Equatoria—Some further desertions—Jephson seriously ill with fever—Dispersion of a party of Kabba Rega's raiders—Their tower-muskets—The extremity of Lake Albert and junction of the Semliki River—Scarcity of natives through continual raids by the Manyuema and Wara-Sura—"The Mountains of the Moon"—Our column on the march is an imposing sight—Mr. Stanley and Lieutenant Stairs join my fever patients—Saat Tato captures a canoe, by the aid of which we cross the Semliki River—Hostile attitude of the natives—I go through the rite of blood-brotherhood with Chief Bakamuggar—Condition of the sick officers—The Wara-Sura attack us while transporting the Expedition across the Semliki—Heavy rains—Death of two of our Manyuema—Enormous banana plantations—Pombé made from bananas—We obtain a beautiful view of the snow-clad peaks of the Ruwenzori range—I study botany with the Pasha—Encounter with a party of Kilonga Longa's Manyuema—Stairs' boy killed and some Zanzibaris wounded—My treatment of four of the latter—The Manyuema recognise their mistake too late—Slow progress of our column—Jephson's condition causes me great anxiety—Lieutenant Stairs' ascent of Ruwenzori—I am laid up with African fever—More tricks by my boy Muftah—The Pasha and Mr. Stanley fall out—First sight of the Albert Edward Nyanza—The Salt Lake of Mkiyo—Slabs of saline deposit at the bottom of the Lake—Dimensions of the Salt Lake—Colour of its waters—Our encampment at Katwé—Analysis by Sir Charles Cameron of Dublin of a specimen of the Salt Lake water—We enter the territory of Unyampaka—Cattle raid by the Wara-Sura on Irangara Island—The first attempt at *al fresco* painting seen by me in Africa—The "Toro" hills—Kabba Rega's bodyguard, called Wara-Sura, attack us, but are put to flight—We come upon two of their deserted camps—Our Wahuma guides leave us—The shores of the Albert Edward Nyanza are extremely malarious, and the water undrinkable—Many cases of fever in the camp—My pigmy woman is a useful nurse—Our march through the Toro district—Fever cases still on the increase—We enter the country of Ankori.

MAY 8.—We left Mazamboni's at 6.30 A.M., and marched through a very rich country, with plenty of bananas, Indian corn, beans, &c. At the end of three and three-quarter hours we camped. Mazamboni's people came all the way with us to this camp, although it is well out of their own country; and they were most kind and assiduous in carrying our men's boxes for them on the way.

Our old camp was burnt by the rear-guard before clearing out. Mr. Stanley now appears very well; he has some chicken the first thing in the morning, and drinks a glass of milk. On the road, he drinks either water or milk. On arrival in camp, which is usually about 11 A.M., he gets banana porridge, prepared by boiling banana flour with milk; he also drinks some milk. During the day he has a cup of arrowroot, and the infusion prepared from two chickens. He is carried on a stretcher made by Jephson, which is very comfortable and very light; it is made from ox-hide and bamboo, and weighs about fifteen pounds—just half the weight of the "New Pattern Stretcher" used by the "Medical Staff Corps" of the British Army.

Our new camping-ground is called Bunyambiri. We marched about 5¾ miles to-day, and had a good view of Ruwenzori in the distance.

MAY 9.—Before leaving Mazamboni's camp, about thirty-five boxes of Remington ammunition were buried under the floor of the house occupied by Stairs and Jephson, close to a large tree near the river. We left camp to-day at 5.30 A.M., and marched six miles. We stopped at a small settlement in a large ravine, formed by the approximation of two mountain ranges—of which the eastern one is snow-capped in the distance—with open intervals between the peaks, through which the sky can be seen. The natives were friendly, and came in to speak to us. Food is not very plentiful in this vicinity; the natives told us that the Manyuema (Kilonga Longa's party) have their camp situated about two days off, and have lately been making raids in their direction; but had decamped hastily, on hearing that Bula Matari was approaching.

Ibrahim Effendi came to me last night, and asked me to go to Mr. Stanley and the Pasha, and procure carriers for him to convey his father-in-law, Ali Effendi: an invalid who owes his delicacy of health entirely to his own indiscretions. I told him that he had already been supplied with carriers. I also told him that unless Ali Effendi was carried, he would assuredly die on the path, as he was unable to travel; and furthermore, that his father-in-law's blood would be upon his head, as he had had strong men-servants, whom he allowed to desert. Under the circumstances, I considered that the best advice I could give was to recommend that Ali Effendi should return with his two officers

and some men of the Pasha's, who had caught us up at 5 P.M. yesterday, and who belong to the party which is following us. Ibrahim Effendi agreed to this, and it even seemed to be what he wanted. He begged me to speak to the Pasha in the morning about the arrangement I suggested, lest he should be annoyed. I complied with his request, and obtained the free consent of Emin Pasha; Ali Effendi was sent to retrace his steps, and we left quietly this morning to proceed in the opposite direction.

MAY 10.—We left camp at 5.30 this morning, and marched over a very undulating country. Three of the Pasha's soldiers deserted last night. From the progress of the desertions I should have little hesitation in prophesying that he will eventually be left alone; still he continues to believe that his people are most devoted to him, as they constantly come and assure him of their intense desire to accompany him wherever he may choose to go.

Mr. Stanley is carried every day on the march in his *katanda* (stretcher made of hide). He feels fatigued on arrival at camp; still he is improving. We camped to-day about 11.30 A.M.; after a march of five-and-a-half miles, up hill and down hill.

The Pasha's people are very reckless in settling down for the night; they encamp everywhere all over the district, and expose themselves greatly—if danger were around, they would form an easy prey indeed.

Jephson is very feverish and almost hysterical, having to perform these marches with a temperature of 103° F., or more.

MAY 11.—We left camp early to-day. Mr. Stanley feels much better. Jephson is, I fear, in for a very serious illness; when he arrived in camp (at 2 P.M.) his temperature was 104° F., and he looked very badly. He is naturally of an anxious temperament, although full of work and energy. He now thinks that the fever will kill him, as he feels that he is losing his senses; indeed, he is bordering on delirium from excessive fever. With regard to high temperatures, I do not much mind that now, after my experiences of this Expedition: for I have seen every officer now here *do a day's march with a temperature of over* 105° F.

At 5 P.M., Mr. Stanley blew his whistle, and the companies all fell in, with their respective officers in front. Nos. 1 and 2

Companies were then sent off with Stairs to disperse some of Kabba Rega's raiders, who are very close to our camp; Shukri Agha was also sent out with about ten of the Pasha's people, and the flag which they always carry with them as a talisman. The enemy immediately retreated, and concealed themselves in the long grass. They have muzzle-loaders which they load with bits of stone, brass, iron, copper, or any other hard material which they pick up; these irregularly-shaped missiles generally make a very bad wound. Most of their weapons are small tower-muskets. When the pursuers reached the top of a hill, where the enemy lay in ambush, scattered about in the long grass, a fusilade commenced; and one man (Casati's favourite servant) was shot through the head, and killed on the spot. Two of the Kabba Rega people were killed and another wounded. Two cows were captured.

MAY 12.—I was up twice last night to see Jephson, who is really in a very serious condition: he does not sleep at all. At 11 P.M., I gave him half a grain of morphia; and at 3 A.M. this morning, I gave him a large dose of chloral hydrate. His fever commences to rise about 8.30 or 9 A.M. Accordingly, I give him thirty grains of quinine about 5.30 every morning; in spite of this, however, his temperature at 11.30 A.M. was 103° F., and at 4.45 P.M., 104·2° F. For the last week I have also given him one twenty-fifth of a grain of arsenic, three times a day.

We marched about four-and-a-half miles to-day, along a very rough path; and from our camp, which is close to a banana plantation, we could just see the southern extremity of the Albert Nyanza, with a long plain about fifty or sixty miles in length, by thirty in breadth, stretching away to the south-west. It at times looked as if there was water spread out over this plain—like a mirage effect; and at intervals the dry land was distinctly seen: no appearance of water beyond the edge of the lake proper, excepting that of the Semliki River, which runs into the southern extremity of the Albert. This plain is studded all over with small bush; and from this mirage-effect which I have been observing to-day, I can well understand Sir Samuel Baker when standing at Vacovia, believing the Albert stretched "illimitably" to the south-west; the plain at times having all the optical appearance of a water-surface, with the increased effect of its glistening streak of the

shining stream of the Semliki River, flowing through it on its way to the lake.

The name of this place is Mboga, another small settlement on the west is called Uhopo, and the part of the plain just beneath us is called Kiryuama. Katonza, a friendly chief, has his country on the plain below, not far from us. There seems to be very little food about these settlements; this fact is owing, I presume, to the destructive raids of Kabba Rega, King of Unyoro, who has a force armed with upwards of 2000 rifles—considerably more than even that of the standing army of Uganda. Kilonga Longa's Manyuema came to a market-place, a few miles from here, on a market-day, surrounded the market, shot a great many of the market-people, made prisoners of the rest, and, of course, scared the poor country people quite out of their settlements. Accordingly, we see very few natives about these parts—only a few now and again, and these always posted at a respectful distance; sitting on the tops of the hills, a long way off.

MAY 13.—Jephson's temperature was 104° F. last night, and I found it the same this morning, although I had given him forty grains of quinine at a very early hour. At noon his temperature was 103·4° F., and I gave him another dose of quinine. He had a tepid bath soon afterwards, and, after another short interval, two grains of opium were administered; which had the effect of producing a little sleep, and lessening the intense lumbar pain. In the evening his temperature was 104° F. I then gave him another tepid bath, and douched his head well with cold water, which gave him some relief. I gave him two Livingstone rousers at 4 P.M.

We remained in camp all day; the men went out to search for food—in two detachments: one in the early morning, led by Stairs; the other at noon, with Nelson.

MAY 14.—We started early this morning, and marched eastwards for about six miles, along the low lands. We halted about 10.30 A.M., in a region rich in bananas.

Jephson slept a little last night. I gave him thirty grains of quinine early in the morning. His temperature at 5.30 A.M. was 102° F.; at 3 P.M., it was 103° F. I gave him forty drops of chlorodyne to-day, and in half an hour he burst into a profuse perspiration.

Stairs had fever when he returned to camp last night; his temperature was down to normal in the morning, and I gave him twenty grains of quinine, but the fever returned this afternoon. This is a very feverish locality, as we are in a position to receive the miasma from the low swampy plains of the Semliki valley. Several of our men are now down with fever.

Jephson had a very profuse sweat last night. I gave him, very early in the morning, thirty grains of quinine dissolved in citric acid. At 7 A.M. I gave him a tabloid of camphor and opium.

I gave Stairs some calomel and podophyllin last night, as his temperature was high. After I had given him his dose of quinine to-day (twenty grains), his temperature began to run up rapidly, and he became intensely bilious.

This morning Nelson went to the river with his company, to try and get canoes for our transport across the stream. About 100 natives also accompanied him. Half of No. 1 Company went in another direction; with the double object of capturing canoes, and procuring a supply of food. We stayed here to-day, as the place is wealthy in bananas, and every individual has been instructed to prepare five days' rations—to live on till we arrive at another hospitable locality.

This country is very hilly; the long broad plain below—the former lake-bed—now studded with trees and bush, extends to the Unyoro hills on the east. These latter are a continuation of the Ruwenzori range. The snow-capped peaks of the latter—the "Mountains of the Moon" (*Montes Lunæ*) of Ptolemy and Herodotus—were believed by the former writer to be the primary source of the giant stream of the Nile.

Our column on the march forms a very imposing sight, and covers about two-and-a-half miles of path, as it moves along in close file: I should say that between whites, Wangwana, Manyuema, the Pasha's people and their servants, and numerous camp followers, it numbers about 1200 souls.

Jephson's temperature at 2 P.M. to-day was 101·8° F.; at 4 P.M. it had reached 103° F. I then gave him half a bottle of Warburg's tincture; I gave him the second half at 7 P.M.

Stairs' temperature at 2 P.M. was 105° F. I then gave him some pilocarpine hypodermically, and it went down to 103·6° F. He is now, I am glad to say, perspiring profusely.

MAY 15.—. . . .

MAY 16.—At 8.30 P.M. last evening, Stairs' temperature was normal; at 9 P.M. a shivering fit came on, and the temperature again ran up—the paroxysm lasting till 4 A.M. this morning. The fever then subsided, and he took an entire bottle of Warburg's tincture. The fever, however, returned at 7.30 A.M., but the paroxysm did not last so long, nor was the temperature so high. He had some distressing bilious vomiting, and he is slightly jaundiced. He drinks large quantities of tamarind-water, which has a refreshing, acid taste. I gave him calomel and podophyllin last night.

Jephson's temperature was over 103° F. last night. Yesterday I gave him half a bottle of Warburg's tincture at 4 P.M., and the other half at 7 P.M. At 7.30 A.M., this morning his temperature was 102·8° F.; at 9.30 A.M., it had fallen one degree. At 8.30 I gave him two arsenical tabloids (one twenty-fifth of a grain each).

Mr. Stanley consulted me yesterday; he was suffering from gastric pain, and felt feverish. At 10 A.M., I found his temperature 100° F.; at 5 P.M., it was 102° F. I sincerely hope that he is not going to have another severe attack like his last; if he does, I will be in a terrible difficulty, and he cannot do so well; as I have finished all the morphine belonging to the Expedition stores, and it is the only thing which gives relief from these gastric pains from which he suffers so much.

Stairs, who went with a reconnoitring party to the Semliki river yesterday morning, returned to-day, reporting: that the river was from sixty to eighty yards in width, that he could find no canoes, and that he had been fired at by the Wara-Sura, who were armed with both rifles and arrows.

Mr. Stanley's temperature is 99° F. this evening; he, however, still suffers from the localised pain. I again examined him, but there was no evidence on the surface of anything going wrong within; there was slight tenderness on pressure, and on percussion; the spleen was very slightly tender, but not appreciably enlarged. He had a very restless night. He took some vegetables to-day, which had been boiled in veal-broth and then strained off.

MAY 17.—We marched early this morning, and travelled about eight miles, along a very low plain. The sun was burn-

ing hot all the time. We reached the Semliki River about 11 A.M., and found this part of the stream about forty or fifty yards wide, and with a rapid current—it is forty-eight feet above the level of the Albert Nyanza; it is four feet deep for about three-fourths of the breadth, and about nine feet deep in the central fourth. Just as we arrived, we saw a canoe floating down stream, but were unable to get at it. Two parties were then sent off: one up the river, and the other down. There is no way of crossing the stream, except we set to work and make a "dug-out" for ourselves; which represents a great deal of time and trouble. Accordingly, Saat Tato and Uledi very pluckily swam across the river and captured a canoe. The natives, however, on seeing their design, let fly large numbers of arrows at them. They succeeded in capturing the canoe; but Saat Tato received a deep arrow-wound, over the left shoulder-blade.

We now formed camp, and fifty men were sent across the river, under command of Bonny, to occupy the opposite side and drive away the natives, who appeared to be viciously disposed.

Yesterday, I had to perform the ceremony of blood-brotherhood with the chief who had come with us to show us the road. His name is Bakamuggar. The ceremony consisted in sitting down on the ground, face to face, with extended legs—my right leg was placed over his left, and his right over my left. Murabo then incised us—two small cuts over the knee in each case. He next put a little salt into the wounds of each; then took a leaf, on which he removed some of the native's blood to rub on my wounds, and *vice versâ*. During the performance, he made signs like a conjuror, and uttered several mysterious sentences. The burden of one was, "May all your children, goats and fowls, die of an evil disease if this vow of friendship be ever broken through your fault." I was obliged to give my new "brother" a cow, and he was to have given me one in return, to complete the bond of blood-brotherhood. I gave him mine, but, as he had not one with him to present to me, he asked Emin Pasha for a calf, which was at once brought him, to be handed over to me. With genuine African trickery, he then sent off both cow and calf to his home, and gave me nothing; although he had himself impressed upon me that the exchange on both sides

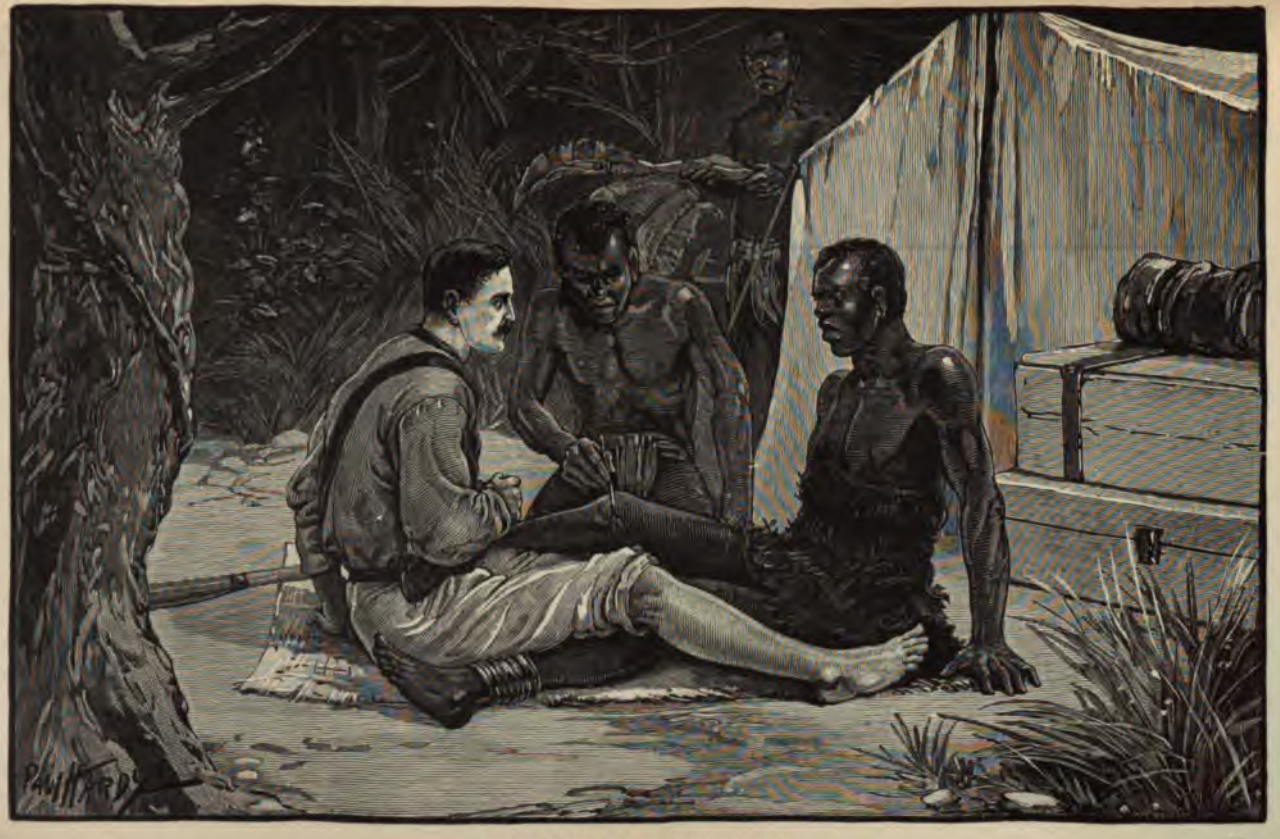
was absolutely necessary to complete the ceremony, and make it a genuine bond of friendship.

Mr. Stanley, Stairs and Jephson, are all three very seedy with fever, and had to be carried on the march to-day. We camped in a bad place—a plantation grove, close to the river. A road has been cut through to the river, and everything got in readiness for transporting the entire column across the stream to-morrow. The natives attempted to attack us, and continued prowling about during the night; so that there was shooting going on from time to time all through the earlier part of the night, and towards morning; till at last they appeared to grow tired of the effort. The Pasha's people and the Manyuema are very fond of firing off their ammunition into the air, so as to deter the natives from attacking, and this kept up the noise—longer, perhaps, than it was really necessary.

Stairs has very high fever to-night.

MAY 18.—Stairs' temperature is normal this morning; Jephson's is still high, and he is very poorly. On getting ready for the start, Nelson took charge of one ferry, and I managed the other. We had two canoes, and we, fortunately, were the only two Europeans who were not prostrated by sickness. We were hard at work getting the Expedition across the river—men, women, children, provisions, animals, &c., &c.—when, about 2 P.M., a party of Kabba Rega's Wara-Sura (sharp-shooters), with about fifty or sixty rifles, crept down close to us in the bush, and poured forth a volley at the canoes, without, however, injuring any one. The Zanzibaris immediately fell in, attacked them, and drove them away. Nelson pursued them, chasing them in all directions through the long grass for about a couple of hours. They had a standard-bearer with them.

MAY 19.—At an early hour this morning, we recommenced the transport of our people and loads across the river. This was completed at about 9.30 A.M., when about 120 head of oxen were driven into the river and swam across. Nelson and I went across in the last canoe-trip, at 11 A.M.; Mr. Stanley had crossed at 8 A.M. We had made 185 trips across the river with the canoes: conveying 1168 human beings, and 610 loads —this was not bad work for a day and a half, as we had but *three* small canoes, each able to accommodate but six persons—in addition to the two pole-men.



PERFORMING BLOOD BROTHERHOOD.

When all had reached the opposite side, the canoes were broken up; the material helping in the formation of a boma around our new camp. Bonny found two *doti* (about seven yards each) of *americani* (calico) in one of the huts here, so that the natives must have communicated with the Arabs in some way.

Mr. Stanley had some beef to-day, for the first time since leaving the Albert Nyanza.

MAY 20.—We marched early this morning, and halted, after a march of five miles, in a village where there were plenty of bananas. I was sent off with a party, to find a road to the south, or a little to east of south. I did succeed in finding a tolerably good one, and returned about 4.30 A.M. The sole came off one of my boots on the way: I would now willingly give £200 for a good pair of boots, if both items of the bargain were forthcoming. On my return, Mr. Stanley presented me with a pair of scarlet breeches.

Stairs and Jephson are now both doing fairly well. The latter takes thirty grains of quinine every morning and evening. It is very heavy marching this, along the Semliki valley, as the ground is very boggy and damp.

MAY 21.—I remained in camp all day to-day. Jephson's temperature has been normal since last night; Captain Casati has a congested spleen, and Emin Pasha a colic. We weighed Jephson to-day: he made 132 lbs.; fifty days ago—on the 1st of April—he weighed 150½ lbs.

A boy came to us to-day offering to sell a knife; it had engraved on it the names of Alf and Alb Schnitzler, Soningen. The name is suggestive of relatives of Emin Pasha.

Jephson's temperature continues normal this evening.

MAY 22.—Heavy rain fell in the early morning, till 5.30 A.M. We marched at 6 A.M. We followed a line a little to the west of south, till 12.30: through bush and banana *tongoni* (deserted clearings). Nelson did not reach camp, as he was with the rear-guard. Very heavy rain fell in the afternoon. We camped in a village. Stairs is doing well, and is able to walk to-day. Jephson's temperature continues normal. Bonny had an attack of intermittent fever yesterday, but appears all right to-day.

MAY 23.—Nelson did not reach camp last night, so Stairs left with his company this morning to bring up the rear-guard;

but Nelson just arrived as he was starting. We marched early, and stopped after three miles' progress through a very bad bush, which gave us great trouble. The rear of our column is some hours behind, and it is really very rough on Nelson and Stairs having to remain out—sometimes all night—to take care of the fugitives who are following the Pasha to the coast. Such perfect human rubbish I have never had an opportunity of observing before.

We are now near the base of the Ruwenzori range; the bush extends up its sides for a very considerable distance.

MAY 24.—The anniversary of the Queen's birthday. Long may her gracious Majesty live! She is well known to the Zanzibaris as "The Bebe" or mother, in honour of whom we have a holiday in camp to-day, and all our men are getting each a full ration of meat. It now takes ten cows to give all the members of our cumbrous expedition a ration. It was exactly on this day twelvemonth that we left the Pasha and Jephson at the lake, and that was the second visit; it was only when a third visit had been paid them that the Pasha and a few of his people decided that they were of the opinion that, taking one consideration with another, their Equatorial lot was not a happy one, and they wished to come out to the coast—possibly with some mental reservation. The Albert Nyanza was first reached on the 13th of December, 1887; in May, 1889 the Pasha and his people came away—so that we had spent a year and five months awaiting their pleasure to say whether they were to stay or go. Our own staying powers were pretty fully exercised in the interval.

We are five miles from the base of the Ruwenzori range, and have an excellent view from here of the snow-clad peaks.

We marched early this morning, and had a good path through the forest till 8.30 A.M.; when we reached a swamp. Having cleared this obstruction, we pitched camp in a village of sixty or seventy huts, built on the Unyoro plan—large and circular, with conical roofs.

MAY 25.—. . . .

MAY 26.—We marched to-day over a very undulating country, and halted to camp in the open, at 9.30 A.M. One of the Manyuema died on the road this morning. He had been suffering from pneumonia since the 19th. Also another Manyuema, who had been wounded behind the left shoulder

with an iron arrow, when wandering about forty yards from camp.

This part of the country is entirely covered over with enormous banana plantations—enough to feed an army corps for months. The natives can never manage to eat them all; they make plenty of *pombé*, which requires great quantities of ripe bananas. This is a very pleasant, cool, acid, non-intoxicating drink; and very suitable to the uses of this climate: its manufacture consumes a large proportion of the bananas of these regions.

Jephson's temperature has now been normal for some time, and he is picking up. Poor fellow! he has lately been several times at death's door. Mr. Stanley continues to improve; Stairs is also getting stronger. Nelson has improved wonderfully since he has had meat.

We got hold of a few natives to-day, but there is no one amongst us who can speak to them in their own language. This is a beautiful rich country; the grass is short and green, and everything grows with such profusion. Our caravan is so large that we rarely shoot game, as they are frightened away.

MAY 27.—We remained in camp all day. There is a beautiful view of the snow-clad peaks of the Ruwenzori range from here. It runs from north-east to south-west; its southern extremity is now about twenty miles from us. The mountain side is covered with vegetation, to a height of about 10,000 feet; with a good many trees, and a rich growth of bush in places. It is fissured all over with ravines. The summit is nearly always covered with clouds except in the early morning—up to 6.30 A.M.—when the sun's heat begins to be strongly felt, and the moisture rises rapidly from the plains and valleys by evaporation. The district about the foot of the mountain is a very foggy one—not unlike what may very often be seen in the vicinity of Hyde Park Corner.

My boy Muftah left my last remaining pair of good stockings behind in yesterday's camp. I feel boiling over with wrath against him, but cannot do anything; if I beat him, he immediately runs off to Mr. Stanley, who will probably appropriate him; if I bring him to Mr. Stanley myself, he will not punish him, but will perhaps give him a load to carry; in either case, I shall probably get a "goee-goee" in exchange, for our chief is invariably predisposed to the black man.

The name of the place where we have camped to-day is Atoso. Enormous banana groves cover the face of the soil as far as the eye can reach.

I studied a little botany with Emin Pasha to-day. He has identified the leaves with which the natives thatched their huts (and we ours) in the forest, as *phrynium ramosissimum*. We constantly apply to the Pasha to name certain plants, insects, birds or reptiles, and never have seen him hesitate to give a classical-sounding name, which seemed to have a proper scientific intonation—at least to those who know but little about such subjects. None of us are in a position to contradict him.

MAY 28.—. . . .

MAY 29.—We marched early to a small village, where we found an old man in feeble condition, whom we fed and set free.

Great quantities of pumpkins grow here, the young leaves of which make a very good mboga (spinach). There are great numbers of bananas, as in every other district of this part of the country, and not many plantains. In Kiswahili the banana is called *kipokuso*, and the plantain *ndési*. We are making very slow and short marches, compared with what we have been accustomed to; so that the Pasha's people may not be rushed too much at first.

MAY 30.—We started early, and marched till 11 A.M. Jephson, I am glad to say, was able to walk all the way. Stairs is now less troubled with pain. But Mr. Stanley has developed high fever, and is looking really badly; he also still complains of that median abdominal pain below the umbilicus.

Our new camp was on the outskirts of a very large banana plantation. Some of the men, accordingly, strayed off by themselves for food; when one Manyuema presently returned with a tower-musket, and said that Kabba Rega's Wara-Sura, or sharp-shooters, were close by, and had fired on our men; but that he had succeeded in killing one, and had now brought back his rifle. On hearing this news, Mr. Stanley immediately blew his whistle, upon which all the companies immediately fell in. No. 1 Company, under Stairs, was at once dispatched to see who those people with the tower-muskets were, and to approach them quietly and cautiously; as a native woman had already told us that the people located in this neighbourhood were Wangwana. No. 1 started along

a path to the south-west, when they were suddenly fired upon by a party of Manyuema, belonging to Kilonga Longa. The wretches had concealed themselves in the grass. The volley killed one of our Manyuema, and mortally wounded Stairs' Zanzibari boy, Farragalah: who had saved Stairs' life many a time in the forest, by sharing his food with his master. The latter died at midnight, from the effects of his wounds. He had received two penetrating wounds through the right chest, and two through the right side of the abdomen. The upper abdominal wound was an inch and a half in length; and a huge hernia rapidly protruded through it, covered by a fold of omentum. Fæcal matter escaped through the lower one. Both of the abdominal slugs had passed out behind—over the crest of the ilium. Four other men were also badly wounded:

1. Uledi Saadi, of No. 1 Company. A slug penetrated the right arm behind, a little above the elbow-joint: fracturing the trochlear surface of the articular end of the humerus, comminuting the olecranon process and the whole of the greater sigmoid cavity, and tearing away a great part of the surrounding flesh. The ulnar artery and nerve were, fortunately, untouched. I resected the elbow-joint. He had still retained, after the injury, some power of pronation and supination, with some movements of the fingers. I used a solution of potassium permanganate as an antiseptic lotion, applied dressings and bandages, and put up the joint in a slightly angular splint.

[Had this man been a European I would have preferred amputation under the circumstances: but the Zanzibaris have such wonderful power of repair of wounds, that I hoped he would recover a fair use of the limb; and the event justified the anticipation. He progressed most favourably, and with the greatest rapidity; in six weeks he carried his box as before, and was able to use the right arm almost as fully as the other: moving it about in all directions, and touching the top of his head, and the opposite shoulder, without difficulty. So that both he and I had every reason to be gratified with the result.]

2. Khamis Unyamwezi, of No. 1 Company. This man received a penetrating flesh wound in the left axilla; also a large flesh wound of the inner side of the left arm, exposing—

but not injuring—the brachial artery and veins, which could be seen pulsating within their sheaths.

[This man made an excellent recovery under treatment.]

3. Achmed Bin Sulieman. A flesh-wound of the right shoulder, and an abrasion of the left cheek. [Recovered.]

4. Ali Nyadi, one of the boatmen. An abrasion of the forehead: not dangerous.

Several other men received small abrasions, mostly produced by unexploded gunpowder: all of whom were provided with dressings, and a "Livingstone rouser" each.

While the fusilade was going on at that short distance, Mr. Stanley ordered the officers and men who were in the camp, to hastily pile up the ammunition boxes and everything else we could lay hands on, so as to make a barricade, from behind which we could fire on the enemy with some effect. The shooting was very quick and sharp, so that we thought we had an active and powerful enemy to deal with. Just as our wounded men were being carried into camp, some of our men recognised the Manyuema, and shouted "cease fire;" and the call had the desired effect, for the enemy saw at once that they had made a mistake. Some of them then came up to our camp, and we all recognised them at once as Kilonga Longa's ruga-ruga. They were in search of ivory, and had mistaken us for Kabba Rega's Wara-Sura, and acted accordingly. After some hours about forty more of them arrived. They then brought in goats and sheep, as presents to Mr. Stanley; who, in turn, offered a gift of two cows, and returned the tower-musket which had been taken.

MAY 31.—New moon to-day. About one hundred Manyuema visited our camp, and exchanged many things with our people—chickens, rice, cloth, &c., &c.

JUNE 1.—We again remained in camp to-day; so that the people might prepare food for three days. All the wounded men have normal temperatures, and there is very little suppuration. I use the solution of potassium permanganate to the wounded surfaces, and boil the bandages before re-applying them; there are so few that I cannot afford to throw away any, and many of those I have are made from old pyjamas and shirts.

JUNE 2.—We marched this morning at an early hour, and did about eight miles. Our way was through an open country

till about 10 A.M., when we entered a dense bush, in which we camped before penetrating very far.

Alas! the last leg of my last smart pair of pyjamas—which I was carefully keeping as a "banderrah" (flag) for my company, so that we might be able to make a respectably triumphant entry into Bagamoyo—has to-day been consigned to Hari's care, as dressing for the wounded.

JUNE 3.—We started at daybreak this morning, and marched till 10 A.M., when we halted for the day in a village. We travelled along a circuitous path; which sometimes dipped into a ravine of 100 feet in depth, and with a steep—almost vertical—facing to be climbed on the opposite side. In these hollow places of our journey, many superfluous articles of baggage and rare collections of curios, were sacrificed for ever to the exigencies of the moment; and irrecoverably lost to the calls of future comfort, and of future science, respectively. Then the path would turn in a direction leading along a ridge placed between two of these fissures, where in many places its breadth would dwindle down to a measurement of two feet; and along which our voluminous expedition could advance with difficulty in single file. Progress was, under these circumstances, necessarily slow.

During the past few days we have crossed, or rather waded through, several mountain streams of considerable volume, and with water of the purest crystal, meandering along at a temperature of (usually) 61° F.

Mr. Stanley had fever last night. Jephson is again down with fever—temperature 102° F. on yesterday, and higher to-day; Nelson has a bad stomach-ache; and the Pasha has had his shin badly barked.

Stairs has been suffering from his ear, and came to me at 1 A.M., this morning, to ask me to give him something to relieve the intense ear-ache, which entirely prevented his sleeping: syringing, however gently done, greatly increases the pain.

We have now come to a slight bend in the mountain range; up to the present, it ran to the south-west; for the next couple of days it will be almost due south. All the villages are deserted, probably on account of the fact that these detestable Manyuema are hovering about in the neighbourhood, seeking whom they may devour.

JUNE 4.—We marched early this morning, crossed a small river, and halted for the day (at 10 P.M.) in a small village.

Jephson's temperature was 102° F. this morning; in the evening it was 104°. Bonny is also in high fever to-day. Jephson will surely die if this attack is prolonged much further, and he is obliged to walk owing to the scarcity of carriers.

JUNE 5.—We did not advance to-day. I was sent off in one direction, with a party of twenty men, to try and find a road. Two other parties were also sent out, in other directions. I found a path leading to the west, and ending at some temporary shelters erected in the forest; to which, I suppose, the frightened natives fly for refuge from their ruthless Arab pursuers. I also found a track leading along the course of a river to the west. No. 1 Company—in another direction—found a very good road, leading along the base of the mountain.

Jephson is very seedy to-day.

JUNE 6.—We marched at daybreak this morning; and, after advancing five miles, halted close to a large banana plantation and broad fields of *mohindi* (Indian corn).

JUNE 7.—We halted in camp for the day. Stairs was sent up the mountain, to explore and report. The Pasha started off bug-hunting, but returned in the evening.

Jephson's temperature went up to 106° F. last night. I am very anxious about him; but he is full of pluck, which, in Africa, is worth a great deal more than medicine. There is a haze or mist everywhere, as far as the eye can reach.

JUNE 8.—I had a sharp attack of fever yesterday, which continues to-day. Indeed, we are now all cripples in the camp. There is bush everywhere all around, and no open plain to be seen in any direction. There are some hot springs close by; the water has a temperature of 102°.

Stairs returned from the mountains about 3 P.M. to-day, having ascended to an altitude of 11,900 feet. He brought back many of the familiar plants of temperate zones—*e.g.*, heather, blackberry, violets, &c., &c.

I feel deuced bad to-day; my temperature has been at 105° F. since morning.

Jephson's temperature has fallen a little.

JUNE 9–11.—. . . .

JUNE 12.—My fever still continues very high; and, to add to my discomfort, my boy Muftah, whose tricks I had

so often allowed to pass unpunished, has, true to his Zanzibari instinct, embraced the favourable opportunity of running away from me. The wretch always does this when I have fever; he returns regularly when the fever is over. He knows well that any one down with African fever is always in a bad temper. He went to Mr. Stanley this time, in the hope of obtaining a reprieve, as he has generally succeeded in doing in the past; but, to my surprise and gratification, Mr. Stanley asked me what I would like to give him. I promptly replied "a dozen," and he there and then received his "dozen,"—all told—at the hands of Khamis Pari (formerly one of Livingstone's men). When sent back to me, the young demon almost immediately ran off again; but he will probably return and kiss my feet before night.

For several days I have not been able to write, owing to the presence of a bad palmar abscess in the right hand, which Nelson opened for me yesterday. Yesterday we emerged from the bush, and had a splendid march through an open plain along the foot of the mountain range, the altitude of which is now gradually diminishing. Last evening, just at sunset, we had a glorious view of the snow-clad Ruwenzori.

The natives here have come into our camp, and made friends with us; bringing us presents of banana wine (*pombé*).

Stairs left this morning with a party, to explore a river which is said to lie somewhere near this place. We are also informed that the Ruta *vel* Muta Nzigé Lake is not far distant.

JUNE 13–15.—. . . .

JUNE 16.—We again descended to the plain to-day; we had for the last two days been crossing the elevation at the termination of the Ruwenzori range. Mr. Stanley photographed the snow-peak on the 13th; we also had a superb view of it last evening. The Pasha and Mr. Stanley, who have always been good friends up to the present, had a row to-day, about making a company of the Pasha's men. The Pasha said, impatiently, "You had better leave me where I am, Mr. Stanley." The latter replied, "You can do as you like, Pasha; you are a thankless, ungrateful man!" The Pasha afterwards apologised.

We caught about thirty head of cattle on our march here to-day. Muta Nzigé, the third great African central lake, is now but a few hours distant. We anticipate some fighting to-morrow.

Rushdi Effendi, one of the Pasha's men, was left behind by the Pasha's people yesterday. I had very bad fever on yesterday. Our camp for to-night is situated in a large circular enclosure, which contains a few large circular huts, into which the cattle are driven at night. Each hut has its floor quite covered with the manure they have manufactured.

JUNE 17.—We left camp at 6 A.M., and marched at a quick pace till 11.30 A.M.; when we reached a settlement, named Katwé, on the Muta Nzigé Lake. Situated a few hundred yards from its western margin is the salt lake of Mkiyo, which is surrounded on three-fourths of its circumference by steep slopes, that rise to the plateau, about 200 feet above the surface of the Lake. On the north-west side there is a very gradual rise. This lake does not possess any effluent stream; consequently its waters are, necessarily, extremely rich in saline matter. It is from this lake that the great quantities of pinkish crystalline salt slabs are taken which are bartered about all over the countries of Toro, Unyampaka, Ankori, Mpororo, Ruanda, Ukonju, and many others. It is of very good quality, and supplies the inhabitants of an immensely large area. The lake is but a few feet in depth: the slabs of saline deposit are taken from the bottom, and carried away to be sold—in masses of various sizes. The water itself has a pinkish colour throughout; it is pure brine, and of a much higher sp. gr. than sea-water. The margin of the lake is strewn with dead butterflies, and animals that came to drink; its quality is evidently too strong for such casual visitors. There is no food growing in the vicinity—either animal or vegetable; the people who inhabit the lake shores, accordingly, barter the salt for all the necessaries of life. The people who had been occupying the lake district just before our advent were usurpers of Kabba Rega's, who had driven out the rightful owners of the soil with the aid of their powder and slugs. They evidently did not relish the idea of our approach; for they cleared out to a man, and did not wait to receive us. After a short interval, the *former* occupiers did approach our camp—in a squadron of twenty-two canoes; they spoke with our men, but declined to land; they have evidently had bitter experience of enterprising visitors.

There are about six hundred huts here, and it appears to have been the great central market-place of the lake district.

They are surrounded by a boma of euphorbia plants, which is neatly arranged, and looks very picturesque. We marched about sixteen miles to-day, and crossed only one river, which supplied us with drinking water.

Stairs procured some canoes; but as there is no food here, I suppose that the circumnavigation of the Lake Albert Edward (or Muta Nzigé) from this point is impossible. We can see traces of numbers of cattle on the plain; they have evidently been driven off by the natives. Mr. Stanley went in a canoe to a considerable distance on the lake, in order to make soundings.

JUNE 18.—. . . .

JUNE 19.—I went down the salt lake this morning, accompanied by the Pasha. The local name of the lake is Mkiyo. Its length is a little over two miles; its breadth about three-quarters. The temperature of the water we found to be 78·4° F. (at 9.30 A.M.). The water is of a pinkish colour, and very high specific gravity; it contains much more salt than sea-water. The natives collect large crusts, or cakes, of the salt from the bottom of the lake. The depth varies from one to two feet. The natives also collect salt by making salt-pans around the margins, from which the water is allowed to evaporate by exposure to the sun, leaving a layer of the salt behind; it is deposited in strata: clear whitish crystals above, and pinkish below.

We found one rivulet running into the lake; this is at the southern extremity, and its waters have a highly sulphurous odour. It has also a sulphurous taste, and leaves a sulphurous deposit. There is no tinge of pink in this water. There is no effluent passing from the lake. The temperature of the water of this affluent stream we found at 84·2° F. This lake has no connection with the Muta Nzigé; it is on a much lower level, and separated by over half a mile of solid earth not traversed by stream of any kind. There are two inhabited islands on the Albert Edward lake, close by our encampment: our present abode being situated between the lakes. The water of the Albert Edward is slightly brackish and muddy, but not so much so as that of the Albert Nyanza. The name of our encampment is Katwé. That of our last camp was Nyama-gazani. The temperature of the air over the lake-water this morning was 77° F. Great quantities of papyrus

grow round the margins of the Albert Edward Lake, but none round the salt lake of Mkiyo. On my return home I gave a specimen of the water of Mkiyo to Sir Charles Cameron, of Dublin ; to whom I am indebted for the following analysis.

COMPOSITION OF PINK WATER ANALYSED FOR DR. PARKE, A.M.D.

This water has a light, but distinctly pink, colour, resembling that of a weak solution of potassium permanganate. It is very alkaline, and on being treated with acids effervesces strongly owing to disengagement of carbon dioxide gas. In warm weather it is quite clear, but during cold days in the winter, salts crystallize out from it.

The specific gravity of this remarkable water is very high, namely, 1,274, water being 1,000. This gravity exceeds that of the water of the Dead Sea, which is 1,170, or thereabouts.

The colour of this water is not due to any metallic or other inorganic matters. Under the microscope a small quantity of floating particles is seen : when by mere filtration through bibulous paper these suspended particles are removed, the water becomes colourless. The suspended matter is destroyed at a red heat, and appears to be altogether of vegetable origin. It consists chiefly of amorphous matter; but it also includes numerous globose cells, which I am disposed to think resemble somewhat the vegetable organism which sometimes imparts a red colour to snow.

The quantity of solid matter dissolved in this water is very great, 100 parts yielded 30·7 per cent. of dry inorganic matter, namely, in 100 parts of dry residue:

Sodium sesquicarbonate	6·88
Disodium carbonate	11·84
Potassium chloride	32·88
Sodium chloride	38·65
Sodium sulphate	9·75
	100·00

100 parts of the water contain, therefore, the following quantities of salts, giving to the crystallizable salts the molecules of water which they contain :—

Sodium sesquicarbonate (Na_4, H_2, C_3, O_9, 2 H_{10}) .	2·02
Disodium carbonate (Na_2, $C O_3$, 10 H_2O) . . .	19·83
Potassium chloride (K Cl)	7·57
Sodium chloride (Na, Cl)	8·90
Disodium sulphate (Na_2, $S O_4$, 10 H_2O) . . .	11·54
	49·86

Percentage constituents of the inorganic dissolved matter calculated as crystallized :—

Sodium sesquicarbonate	5·83
Disodium carbonate	23·96
Potassium chloride	24·65
Sodium chloride	28·98
Disodium sulphate	16·58
	100·00

The water therefore consists of:—

Water	50·14
Salts of sodium and potassium	49·86
	100·00

The occurrence of sodium sesquicarbonate in this water is interesting, as this salt is rarely met with. It has been found in the Province of Sakenna, two days' journey from Fezzan in Africa, and is there termed "*trona*." It has also been found at the bottom of a lake in Maracarbo, South America, where it has received the name of "*urao*," and as an efflorescence near the Sweet River in the Rocky Mountains.

All the salts in the pink water are valuable.

CHARLES A. CAMERON,

Royal College of Surgeons, Dublin.]

4th March, 1891.]

JUNE 20.—We started at daybreak this morning; we are now in Usongora—after a few hours' march we enter the territory of Unyampaka. We marched eighteen and a half miles to-day, and reached another portion of the Albert Edward Lake, opposite a large island named Irangara. We had five hours' marching this morning before we reached water.

This country must be very well stocked with cattle, as there are traces of the footprints of large droves of them to be met with in every direction. We are *on the Equator* again to-day.

Kabba Rega's Wara-Sura in one raid captured several thousand head of cattle on this island of Irangara: the unfortunate natives, when chased by their plunderers, had driven their cattle to the island for refuge and safety; the only result of which was that their live stock were all seized the more easily—at one fell swoop. We hear the lowing of large numbers of cattle going on in the island at the present moment.

Close to where we halted to-day are some mud-walled huts of considerable thickness and strength; we found some coloured pictures on the inside and outside of these walls—done in red, blue, brown, and some other tints—the first attempt at *al fresco* painting I have seen since I entered the depths of Africa.

JUNE 21.—After marching for four hours this morning, we approached a range of mountains running in a north-easterly direction. They are known to the natives by the name of the "Toro" hills. Mr. Stanley adapted our line of march to the direction of the mountain range, and encamped for the night about halfway between the foot of the mountain and the

shore of the Albert Edward Nyanza. This lake seems to be plentifully stocked with islands. We saw herds of antelope about, a few giraffes, numbers of herons, storks, ducks, geese, kingfishers, some specimens of the sacred flamingo, &c., &c.; but no article of diet immediately available has turned up on the road for the past four or five days.

We captured a Wara-Sura spy here; our present place of encampment had evidently been occupied by the Wara-Sura till yesterday. This name of Wara-Sura was originally applied, it appears, to Kabba Rega's body-guard; as he increased in power, and became more aggressive, his guard gradually swelled to so large proportions, that he is now able to send detachments of it all over the districts of Toro, Unyampaka, Usongora, &c., &c., to attack the natives, and loot their villages.

JUNE 22.—We marched about ten or twelve miles this morning; and, about 10.30 A.M., as we were defiling through a pass, the sides of which were decorated with some lofty canes, and the vanguard was in the act of crossing the Rukoki river, we were attacked by the Wara-Sura, who fired a volley out of their covert in the dense brake, where they lay in ambush. It was aimed, of course, at the leaders of our long file. After delivering themselves of this warlike salute, they immediately took to their heels. Our Wahuma guides, twelve in number, were in front; then followed our flag—with the star and crescent—with four Zanzibaris; then myself, as I was in advance with the skirmishers. Most of the men dropped their loads, and ran directly back "in blue funk," making a regular stampede. They carried me backwards too, in the violence of the rush, through the narrow path; but in a little time I was able to get a few of them steady, and managed to send five or six skirmishers forward. I then went to Mr. Stanley, who was in front of the column; he gave me six men to pick up the loads which had been thrown on the path, and which might easily have been appropriated by the Wara-Sura, had the latter had the courage to follow up their advantage: he also sent on No. 1 Company under me, and No. 2 Company following under Jephson. The latter and myself, having got the companies clear of those men in front, quickened our pace, and ran on for a couple of miles in pursuit of the Wara-Sura. We then came upon two camps which had just been deserted; the flying Wara-Sura had set

the huts on fire before clearing out, and they were blazing away vigorously. We did not succeed in catching any person, as they escaped in the long grass, and were permitted to enjoy the view as they hastily climbed the hills in the distance. Our men picked up bananas, beans, and *tulabone* flour in the deserted camp. One or two huts of the latter were surrounded by a very strong euphorbia boma. One hut was built in the shape of an ottoman, and was coloured all over with red, white, blue, and black spots. We camped in a large banana plantation for the night; the men were directed to prepare provisions to last for six days (bananas and Indian corn).

JUNE 23.—Our guides leave us here; they are Wahuma, and have accompanied us from the place where the natives of their tribe first entered into the bond of friendship with us. We rest in camp to-day and to-morrow; Nelson has gone off to-day with his company, to hunt up the Wara-Sura.

The water of this lake is very unpleasant to drink. The shores are all covered with ambash wood; with very tall reeds, and papyrus.

JUNE 24.—We rest in camp to-day, and are preparing a supply of food for seven days. Saadi Mpsa of No. 2 Company died to-day. He had suffered from bad remittent fever for six or seven days; then he got double pneumonia, a complication which, in his weakened condition, he was, of course, entirely unable to battle against; so he died in about thirty hours. The shores of this lake are, certainly, extremely malarious; about one-third of the entire caravan is down with fever at the present moment, including my little Monbuttu, who has constantly suffered from intensely high fever since she left the shady forest, and became exposed to the hot sun on the plains.

JUNE 25.—We marched about fourteen miles to-day, and crossed five large rivers on the way. We passed round an inlet of the lake, and camped in the bush. Our water supply here had to be drawn from stagnant pools; and looked like coffee, from the amount of suspended mud which it contained. No wonder that we have so much malarial fever amongst us! The water of the lake is entirely undrinkable.

I got within thirty yards of an elephant to-day.

JUNE 26.—We marched early this morning. At 7.45 A.M. we passed a large river. At 9.30 we encountered another

detachment of the Wara-Sura; who, as usual, fired a volley at us, and then ran.

My tent did not arrive last night till 8 P.M., and to-night it has not come at all. The man who looks after it is sick. I have had fever to-day. Yusuf Effendi died to-day. My little pigmy is one of the best of nurses, and would be invaluable as attendant to anyone who had no optic or olfactory organs. We have all seen so much of her that we can speak from experience.

JUNE 27.—We remained in camp to-day. Jephson and myself are on our backs, with high fever; Nelson, accompanied by a native guide, went out to find a road; Stairs was sent back to hurry up the stragglers. The latter found my Manyuema carrier—in charge of my tent—sound asleep at our last camp. A few of the Pasha's people were found lying on the path, who had been speared to death. An enormous amount of fever still in camp.

JUNE 28.—This country is very thinly populated; there are few cattle to eat down the grass, which, indeed, has now developed into a cane-like growth of such a coarseness and strength, as would severely tax the masticatory powers of any member of the ox tribe.

We started at 6.30 A.M., marched over a very hilly hollow country, and halted close to a river of fairly clear water—the only fair imitation of *aqua pura* which we have had the chance of utilising for many days. A large proportion of our caravan is still, indeed, suffering from the effects of imbibition of the contents of the detestable pools of these regions.

Mr. Stanley himself has very high fever to-day.

JUNE 29.—We marched to-day from early morning till 10.15 A.M., and then halted in a banana plantation. Mr. Stanley's temperature is extremely high to-day; Stairs, Jephson, and Bonny are also prostrated by the prevailing disorder; and a very large proportion of our men are entirely unable to carry their loads from this horrid fever, whose presence weighs us all down. Every man's tongue is coated with a white fur, even if he has not an elevated temperature. Emin Pasha's temperature is now normal, but he has still the white tongue.

Food is quite plentiful here.

JUNE 30.—Mr. Stanley's temperature is very high to-day; it is also keeping its elevation, and there is no attempt at

perspiration. As the day advanced, I became anxious, and gave him a hypodermic injection of pilocarpine. He soon after commenced to perspire profusely, and this continued till he was thoroughly drenched; he then became quite cool. Bonny also is very feverish to-day. A great number of the men have fever.

The natives came into our camp here, and made friends with us. They carry bows of five feet in length, and arrows of proportional dimensions. We are still in the Toro district.

My last fowl was stolen to-day—by our Zanzibari cook, Ali Bin Said.

JULY 1.—We marched but a few miles to-day, and camped close to the lake. A splendid expanse of water lay before us, as far as the eye could reach: there is nearly always a haze or mist, of some degree of density, hanging over and around this lake. The water is brackish to the taste; and, as far as we can see, is nearly covered over with floating pieces of vegetation.

We are now in Unyampaka again. We are at present near Mr. Stanley's old camp—the furthest point to which he penetrated after leaving Uganda in January, 1876. For the last two days the natives have been quite friendly to us.

The men are to prepare a supply of food for several days before leaving this place. There is a range of hills stretching along within a couple of miles of the lake; their altitude would be about 800 feet.

Mr. Stanley is again down with fever, his temperature is 104° F. this evening. The amount of fever among the men is diminishing. I filled to-day all the quinine bottles belonging to the officers of the Expedition: this is necessary, as they are often away from me for a couple of days at a time; and their already large experience of malarial fever has taught them, very accurately, when and how to take the medicine. This ounce bottle must do for each till we reach Zanzibar, as there is no more quinine left.

JULY 2.—We rested all day in camp, on account of the enormous number of cases of fever among our men. Mr. Stanley has now quite recovered from his last attack. The natives are visiting us, in friendly batches of twenty or thirty each. The king, Bulemo-Ruigi, was to have come to call on us to-day, but has not yet arrived.

The moon is now four days old.

JULY 3.—We started early this morning, and after marching about six miles in a southerly direction, entered the country of Ankori; where we camped on the brink of the lake, in the Katari settlement. We were now obliged to drink the lake water, as there was no other source of supply discoverable within reach—nothing near us, even in the shape of a muddy stream, or a stagnant pool. Ever since we met the Wara-Sura—days before the native guides left us—we have been meandering along a low ground-level: but about ten feet above that of the lake water. This low altitude, together with the wretched water supply, has supplied the enormous number of fever cases with which I have had to deal within so short a space of time.

A great number of natives have come into our camp to-day on a friendly visit.

CHAPTER XXV.

THE MARCH THROUGH ANKORI AND KARAGWÉ.

Decision as to our future route—Friendly assistance rendered by the natives in carrying loads—We wait King Antari's pleasure at a small village—Loss of some of my clothes—Native customs—Presents of goats and guides from King Antari—Several members of the expedition prostrate with fever—Symptoms of an attack of fever—Some pupils of the late Mr. Mackay of the C.M.S. visit us—Their information regarding the latest events in Uganda—The cause of African fever—A few of the Pasha's people drop out of the caravan through sickness—The detestable "yellow-bellies"—Our progress obstructed by a large papyrus quagmire—Carelessness of the Zanzibaris with their rifles—Immunity of our men from sunstroke—We experience sharp alternations of temperature—Large herds of cattle—Stinginess of the natives—Another case of sunstroke—Theft of rifles by the natives—Fever among the white officers—Visit from the young prince of Ankori—Ophthalmia among our men—Native coffee—Bonny's condition—We transport the caravan across the Alexandra Nile—Murder of a Manyuema woman—Description of the Hot Springs at Mtagata—I take a thermal bath—Death of one of Kibbo-bora's wives—My opinion of Manyuema men and women—I am obliged to leave my pigmy woman with some friendly natives—Her parting casts a gloom over the camp—The deserted settlement of Kafurro—Visit from one of Speke and Grant's men—Message from the boy king of Karagwé—Jephson pays his respects to the latter—Bargain making with the king—Karagwé an uninteresting country—The coldest day experienced by me in Africa—After a rough march, we arrive at Lake Urigi.

JULY 4.—Last night, Mr. Stanley called us white officers to his tent, and explained to us that he had heard from the natives that Antari, King of Ankori, had had a supply of guns given him by the Waganda, as he had become subject to Mtesa, late king of the latter country. Also, by passing in this direction, we would have to pass through Karagwé, a powerful Uganda territory. These considerations must make us cautious, and may, perhaps, oblige us to change our plans. There are now four ways open:—

1. Go back to the bush, and come out at Ujiji.

2. Through the warlike Ruanda territory, occupied by a powerful tribe, who have a queen on the throne.

3. To pass to the west of Uganda.

4. Through Ankori and Karagwé.

It was decided to adopt the latter course, as the most desirable route upon the whole, if not quite the shortest. If we met with too much obstruction on the way, we would then strike the Uganda road, and turn southward to the Alexandra Nile.

We made a long march to-day, and found the natives quite amicable on the way. We were, of course, obstructed by the fact that considerably more than a fourth of our people are now suffering from high fever, and groan and wriggle about as they slowly drag their flabby limbs along. I am one of the unhappy number myself; and the pigmies suffer more than any of us.

The friendly natives here often come up to us on the path, and volunteer to carry some of the loads for short distances. My boy gave one of them some of my things to carry as we were on the march to-day; I am made somewhat anxious by the fact that he has not come into camp to-night. The carriers, who work in this way by voluntary contribution, are known as *kanuan* in Kiswahili.

JULY 5.—I was with the advance guard to-day. We had not proceeded far on our route when we were accosted by a chief, who had with him about a dozen attendants; he told us that we must stop where we were till he sent word to the king informing him of our approach, as this was their custom. Accordingly, anxious as we were to stand well with his majesty of Ankori, we immediately brought the whole caravan to a respectful stand-still. After an hour's shauri we were permitted to march, escorted by the chief and his attendants, till we reached a small village, consisting of a few huts: at which we are to remain till the king's pleasure concerning us is made known.

My kanuan (voluntary native carrier) has not come into camp to-day either, so that another load is gone! But, from long experience, I have come to the conclusion that in travelling near the Equator it is no great disadvantage to lose one's clothes; for when they are gone, all anxiety has departed with them, and there is no critical society to discuss the presentability of one's appearance, or gossiping journals to record what was worn at last evening's conversazione. What is more to the purpose is that my fever is very high to-day.

The country here is abominably hilly, and wearisome to march over. The natives all wear cloth—an inferior kind of brown calico.

JULY 6.—Mr. Stanley told me to-day that we had passed Mount Edwin Arnold some days ago, and Mount Lawson on yesterday. The natives are very friendly here, and brought in plenty of food; which they sold to our people for clothes, beads, cowries, and ornaments of various kinds that they have picked up on the march. The purchase of a goat is effected by the exchange of one *doti* (twelve yards) of inferior calico. The natives are very keen in the acquisition of cloth—also of gunpowder; they do not, however, like so many of the Central African tribes, care very much for beads or cowries.

The Pasha, Jephson, and myself, have been consuming with high fever to-day.

JULY 7.—We remained in camp all to-day (Sunday). Did nothing particular.

JULY 8.—The messengers have returned from King Antari, whose palace—or mansion, or kraal, or straw hut—is located at a distance of a couple of days' march from here. They say that the king is a "boy" of about twenty-seven years old; and that he is at present away (with his royal household) at Ruanda; but his mother sends her compliments to us, and says that, as she understands that we are good people, and has received a favourable report of our disposition and movements, she will send us some guides, accompanied by a present of a few goats and a couple of cows—to meet us at the Alexandra Nile. Personally, I believe, that all this "blarney" is due to the fact that they have been frightened by the size of our caravan, and are anxious to get rid of us as rapidly as possible; and that, actuated by this (for us) wholesome awe, they have manufactured the story about the king's pilgrimage to Ruanda. The ambassadors are so polite, and say such nice things, that one would think indulgent nature had placed within their reach for the occasion a specimen of that celebrated mineral, lingual contact with which is generally believed to inspire so large an amount of Southern Irish eloquence.

I see that some of the natives here have got old tower muskets; which were, of course, brought up to this place by Arab traders. One of these muskets—purchased at the

coast for the sum of one dollar would, in bygone days, have been exchanged in this region for about £60 worth of ivory. Several members of the Expedition have not yet reached camp; when they get fever, they immediately prostrate themselves on the ground, and seem greatly disappointed if they don't die. Their action under the circumstances presents a really curious contrast to that of the white man: who uses every remnant of energy that he has got to bring him up to camp for the night, and is again ready to start next morning. Of the thirteen Somalis who started with us, we have now but one left; while of the thirteen Europeans, but one has died. Now, neither Somalis nor Nubians have been obliged to carry loads—except in way of punishment; they have exactly the same food as the whites; and not more physical work to perform—if indeed so much. This tropical climate, excepting the marshy districts, and those where water supply is deficient, is certainly good enough for any white man; and, taking one season with another, is certainly a more enjoyable one than that of England.

We are remaining in camp here all day. We have plenty of bananas. Stairs has high fever to-day. We have all of us now become quite familiar with the prodromatory symptoms of an attack; the affected individual becomes extremely talkative, as the mental powers become very active—and develops a great air of independence. The eyes become bright and glassy, the hair soon becomes dishevelled, and one quickly passes into a very bad temper, &c., &c.

JULY 9.—We started early this morning, and marched till 11 A.M.; when we halted at a small village, consisting of a few huts, and with some bananas growing near. Shortly after our arrival, some six or eight Swahili-speaking individuals came in. They were very respectable looking, well clad, and could read their prayers in Swahili. They informed us that one and a-half years ago the Waganda had deposed their King Mwanga, the eldest son of Mtesa, the last king—and consequently, hereditary heir to the throne; and that he now lives on an island in the Victoria Nyanza, supported principally by Christians, with a certain proportion of the Waganda, his former subjects. The Katekiro (prime minister) had been killed in the revolt. Karema, a younger brother of Mwanga, now reigns in his stead. Mwanga's morals are said

to be by no means of an exemplary type; he is also said to dislike the Arabs, as the Arab traders all support Karema. All traders and missionaries had to fly from Uganda at the time of the rebellion; about 2,000 of the refugees came into the Ankori territory, and our present visitors were of the number. They had formerly been pupils of Mackay—of the Church Missionary Society—and they know how to write the Swahili language freely: as well as speak it, read it, and pray in it. They are very superior men.

This day's march was an exceedingly laborious one; the country being very hilly. Heri, one of the Pasha's people, died of fever to-day. The reason why the fever clings so to us still in these hilly, non-marshy districts, is the exposure to the chilly blasts which we meet as we go down-hill. In ascending these laborious elevations, the men sweat and groan continuously from fatigue, under the exposure to the direct rays of the burning sun. When the summit has been surmounted, and the descent commenced, with the subsidence of the physical exertion, the cool blasts which are always whirling around the hills bring on an immediate chill; and my experience of African travel in this connection is that the smallest draught of cold air, after exposure to great heat, never fails to bring on a paroxysm of fever. When these uncalled-for breezes come up from shaded, swampy ravines, there is, of course, an additional factor introduced for the manufacture of pyrexia.

JULY 10.—My tent did not arrive till 10 P.M. last night; so I lay all night by the fire, in the open. Two of the Pasha's people remained behind in camp to-day: they were unable to march—or, at least, they said so—from the exhaustion produced by extensive ulcers. Their names are Abdul Wahid Effendi, and Ibrahim Telbass; their families—women, servants, and children—remained behind with them. They get plenty of food here, and, indeed, are so lazy that they seemed glad to have some serious excuse to drop off from our caravan. As they include a goodly number of worthless persons, we will move more lightly and freely without them. All the Pasha's men are polygamists. Many of the native Swahili-speaking people express a wish to accompany us to the coast.

The Pasha is down with fever to-day: his temperature is 104° F. this evening. Casati has also high fever. Songora

Baraka, from whom I extracted a tooth the other day, has got "Bell's palsy," partially developed; the ptosis is well-marked, and he also has slight aphasia—a sort of sequela of very high fever, from which he has been suffering. He was one of our strongest men; and did, I suspect, get an attack of sunstroke —superimposed on his fever.

This is a fearfully hilly country, and our men have most difficult work in carrying their loads up hill and down dale. The dragging along of the Pasha's people, with their women and children, is dreadfully slow work, especially in conveying them over the hills. I am glad we have got rid of Ibrahim Effendi and his harem now! I wish many others would follow his example; now that they have come among friendly people. He is not so ill as that he could not march, so he evidently wishes to reside in this part of the country. The Pasha's people have lost many children by wild beasts (mostly hyenas) carrying them away at night.

JULY 11.—We made but a short march to-day. Farragalah Abdullah, one of our Nubians, has not arrived in camp to-night; he has a Remington rifle with him.

JULY 12.—The thick-lipped, broad-nosed women-servants of the Pasha's people are really the best of the vile crew; they carry their masters in hammocks on the march, go off and fetch food, cook it, wash, and do all the hard work; while these detestable "yellow-bellies" (a local appellation for Egyptians) lie (or sit) at their ease—smoking cigarettes, drinking coffee made from hibiscus nut, and doing endless talking. There are a few Coptic (white) women, one or two of whom had been notorious in Khartoum; which possessed a great deal of questionable propriety in its recent years of excitement. Many of the Pasha's people are fanatical Mohammedans; they are constantly muttering their prayers, and devoted to reading the Koran; each keeps on passing a string of beads continuously through his hands.

We marched to a village where we were fortunate enough to find plenty of food, including some excellent dried peas; and also a small quantity of butter. Our guides left us here.

Songora Baraka died to-day; his paralysis had gradually grown worse, his mental functions failed, and he passed by degrees into a state of complete coma and general paralysis.

e had evidently had a sunstroke. Death was accelerated y paralysis of the muscles of respiration. This is our first ase of sunstroke since we left the Albert Nyanza.

JULY 13.—We marched till 11.30 A.M. to-day, and met with a great obstruction to our progress, in the form of a large papyrus quagmire, in which we lost twenty-six cows, and eight or nine goats. We had great difficulty in getting through it ourselves. The papyrus is very abundant in the swamps of this part of the country, and grows in enormous quantities around the shores of the Albert Edward Nyanza. It appears to form a jungle growth in marshy districts generally, here; and this swamp which robbed us of so many valuable cattle to-day, appears to have been originally meant for a river, and bears the name of Rwizi.

On arrival in camp, the Zanzibaris went off to explore among the native huts. On coming back, they informed us that they had gone into one of the huts in which the natives had offered them milk to drink; they had left their rifles standing outside the door, and some one came up and fired off a few shots—killing two natives in the experiment! Two rifles were lost in the alarm which followed. The whole district was roused; Stairs was sent off in one direction, Jephson in another, and I was sent to recover the two lost rifles: which I succeeded in doing without firing a shot—through the assistance of a native who volunteered to recover them for me, and kept his engagement. The two men who had lost their rifles, and also their comrades who had accompanied them, were punished for having strayed away without permission.

Bonny is down with high fever; there are a good many cases of it among the men. Another man has got a sunstroke, and is developing exactly the same series of symptoms as did the man who died yesterday. He has extremely high temperature, is developing paralysis of his limbs, and slight aphasia is beginning to show itself. These are the first cases of sunstroke I have seen since we found Emin Pasha. I have no doubt that the remarkable immunity of our men from sunstroke can be partially credited to the fact that the heads of the carriers were always protected by their loads during the march; but I do not by any means think that their safety was altogether due to this. As a matter of fact, I have seen more cases of sunstroke in one day at Aldershot, than I have ever

met with in the whole course of my seven years' African experience, including the Egyptian war of 1882, and the Nile Campaign of 1884–85—although in the latter I went as far south as Metammeh—within sixty miles or so of Khartoum. *Drink* is certainly the most powerful predisposing cause of the development of the symptoms of sunstroke.

Amongst these hills there is a difference of 20° F. between the temperature of day and night, and as the men have not always materials at hand to construct huts for their shelter during the night, they are obliged to sleep on the cold ground, and exposed to a really bitter chill, which reminds me of our experience on reaching the Nile at the termination of the Desert March for Gordon's relief: the nights then were extremely cold, although the heat during the day was excessive, while the nights spent in the desert had never felt chilly until we came near to the waters of the Nile. I attribute to these sharp alternations of temperature—and the consequent disorders of circulation, a strongly predisposing action in the production of these cases of insolation, hitherto almost unknown to the Expedition.

There are thousands of cattle roaming over this region: they present a great variety of colours, and the full-grown ones are usually about the size of an English "three-year-old." They nearly all have the hump over the shoulders. We met large herds of them, at intervals of a couple of miles or so, grazing near our path.

Nelson and Stairs were sent back to-day, to fetch the meat that had been left yesterday. There is little or no firewood to be found anywhere in these parts, and we are obliged to make shift with the stalks of the matammah as fuel. The result is that we all suffer a good deal from the nocturnal chill.

The natives, although friendly, are very stingy with us. There are so many thousands of cattle about in all directions, yet they will not bring us a scrap of either milk or butter: not even to *sell*. We are now on a plateau, which is a great comfort after the hills; as there are no gusts of cold air, to whirl round the corners, and give us a chill and fever. The valleys are always much colder than the hills: as the heavy, cold air remains below till the sun has reached a sufficiently high altitude to warm it by its radiation, when it ascends in chilling currents. The air on the plateau is (thank Providence!) uni-

formly heated; so that our cases of chills and consequent fever are rapidly diminishing. Besides, in the hilly and swampy country which we have recently been crossing, we were obliged to drink water from the stagnant, papyrus-grown swamps; which, in itself, was quite enough to sicken any one, and give him fever. We did our best to neutralise the poisonous qualities of this water by always boiling at night a supply for our water-bottles on the following day.

My second case of sunstroke, Khamis Nasebo, died last night: he had developed paralysis, and passed gradually into a state of complete coma.

The Swahili-speaking Uganda visitors returned to King Antari yesterday.

JULY 14.—We made a long march to-day, and reached a chain of barren hills, at the bottom of which was a very large settlement which we occupied. The natives seemed disposed to take the upper hand, for they seized Fundi Said's rifle on his coming into the village; they, however, were afterwards gracious enough to return it. There are plenty of bananas here; also some *wembi*, a grain like matammah, but much smaller in size.

JULY 15.—We remained in camp all day; as we are preparing seven days' food, to fortify ourselves with before we recommence our journey. We expect at the end of three of these days to have reached the Alexandra Nile; we will spend two days in passing it; and we hope in seven more days to have reached the King's capital, where we will be able to purchase food.

I had a very severe attack of fever yesterday, and another to-day. Jephson's temperature is over 105° F. this evening.

Mr. Stanley punished several of the Zanzibaris to-day for stealing from the natives.

JULY 16.—We again remain in camp to-day; we must be cautious in our peregrinations here, as some of the Pasha's people have had their rifles stolen by the natives, and one of them has received a thrust from a native spear. Mr. Stanley received a visit to-day from a cousin of His Majesty King Antari: he is a very skinny individual. He wears a strip of red calico, which covers his shoulders and loins.

I was slightly better this morning. Jephson's temperature is still high (105° F. this evening).

JULY 17.—We marched along—over high hills and through deep valleys—till 11.30 A.M. All our rifles have been recovered; so that the natives are not so vicious as we were beginning to fear. We camped in a large banana plantation, where all the men can make huts. There is a great deal of fever again prevailing—these hilly regions always do it.

JULY 18.—We remained in camp all day. The natives bring goats, fowls, sweet potatoes, &c., &c., to sell; but will only take cloth in exchange, and we have little or none to give—so there is no bargain.

Omar, a chief, who was sent to the capital, has now returned, and gratified us by informing us that we could have come a shorter and a better road.

JULY 19.—We remained in camp all day. Mr. Stanley, Stairs, and the Pasha are all down with fever at present; the Pasha's temperature is 103° F. this evening. Two princes of the blood-royal, sons of His Majesty King Antari, are expected here to-day: we are naturally thrilled with the prospect.

JULY 20.—Some Wanyamwezi, who had come from the capital, say that the Germans have bombarded Bagamoyo, as one of their subjects was killed.

Mr. Stanley, the Pasha, and Stairs have all recovered from the fever, and Bonny is taking a turn of it now. Nelson has had very much less fever than any of us, as he carefully carries out the prophylactic treatment already alluded to.

I purchased two fowls to-day, for two spoonfuls of beads. We remained in camp all day, but our hopes of seeing the king's sons have, up to the present, been deferred.

JULY 21.—On leaving camp this morning, three of the Pasha's people expressed their desire to remain behind, and were allowed to act accordingly. They excused themselves from proceeding further, on the plea that they were suffering from ulcers; laziness, and the neighbourhood of plenty, were, I have no doubt whatever, the real reasons of their stay.

Some children who were left behind by the Pasha's people were at once seized by the natives—not for cannibalistic purposes, as these people are not cannibals—but as a variety of adoption which is sometimes called *slavery:* a substantive which, being interpreted, means that the individuals concerned have to work for their food; domestics under these conditions are otherwise well treated.

JULY 22.—We marched early; and camped in a large banana plantation. Shortly after our advent the young prince arrived, borne on the shoulders of his valet, with his legs hanging down, one on either side of the neck of the latter. He was brought to Mr. Stanley's tent, where a large crowd had gathered to see him. He is a rather nice-looking lad, of about fourteen years old.

The huts which we slept in at last night's camp were alive with rats, bugs, fleas, &c., &c., so that we turned out in the morning like boiled lobsters, our invariable condition after sleeping a night in the native huts. The rats have a playful way of dropping from the ceiling, occasionally right on to one's nose. The people are very loyal to their king.

We have a splendid supply of bananas here.

JULY 23.—This morning was occupied by the performance of the ceremony of blood-brotherhood between the royal prince and Mr. Stanley. The sanguineous scratch was on the arm in their case; two volleys were fired by No. 1 Company, three cheers were delivered, and the action of the Maxim gun was displayed. Our chief should certainly by this time have an exceptionally select supply of blood in his veins, for it would be difficult—for himself even—to enumerate the quantity of kings, princes, and sultans with whom he has performed the rite of "blood-brotherhood." I am not aware that he has ever performed a similar blend of friendships with any queen or princess of the royal bloods of Africa, although he might have been inoculated with some of the vital fluid of the fair sex had he elected to pass through Ruanda.

There are great numbers of tomatoes here, very excellent in quality, although rather small in size.

JULY 24.—We marched about six miles to-day, and reached a banana plantation, where we camped. We have also good water to drink here. Khamis's boy hid himself in the grass on the march, and, thereby escaping our rear-guard, was lost to our caravan. I suppose he has now been appropriated by the natives. We have had a good deal of ophthalmia among our men; my own right eye is perfectly blind from it. It is most serious, as there is no malady more thoroughly disables a man on the battle-field, or in a hostile country, than this; it leaves one perfectly helpless.

The natives grow coffee here, and have already sold us

some in the shell; it is, however, a very expensive luxury, for they ask as much as fifteen cowries per handful. We crushed the coffee-shells in a mortar, and then toasted the beans over a fire: they made us very excellent coffee indeed.

We whites are all, more or less, under the influence of fever at present. Bonny has more complaints than Jenner could master: from the crown of his head down to the least presentable part of his body, every spot has a special series of symptoms of its own, and a history attached thereto. He is himself an empirical doctor; he tells me he cannot eat, drink, sleep, &c., &c., and wishes me to give him some caffein or a "starvation tabloid." He has not yet thoroughly recovered those dreadful days of absolute starvation on the banks of the Ituri, where he came near leaving his bones amongst those of his black companions, as a monument of devotion to his duty.

JULY 25.—We marched till noon, when we reached the Alexandra Nile; it is at this place broader than the Semliki River (about 100 yards), but has a much more rapid current, and is somewhat deeper—about 5½ feet in depth at mid-stream.

After reaching camp, the Manyuema who carried my tent returned to fetch his wife, who was ill, and following along slowly; he did not, however, return to camp—both he and his wife were found dead close to the path, where they had been speared by the natives. The assassins had taken away his rifle.

I am barely able to distinguish between day and night with my eyes. I am now wearing green goggles, which I originally purchased for the Nile Expedition, 1884–85. There is no mistaking the "modification of function" produced by this ophthalmia. Ali Somali, *vel* London (of No. 1 Company), did not reach camp to-night; he had complained of a pain in his head in the morning, but had no fever.

JULY 26.—We marched to the ferry this morning, about half an hour's walk, where we found six or eight canoes; of which, however, some were quite unfit for use. However, after some delay, and a good deal of palaver, three canoes were lent to us by the natives, but they took away one of these soon after. The canoes were at first poled for us by the natives; but they soon got tired of the hard work, and the Zanzibaris then took it up. Emin Pasha and most of his people, also Stairs with No. 2 Company, were canoed across during the day. Nelson returned with No. 3 Company to

try to find London. They *did* find him, and in good health too; he was able to walk into camp as well as any man there; the loafer should have been well punished for remaining behind in this way, and causing so much trouble. Blacks and whites are all the same in this one respect, both at home and abroad, when they have been sick for some weeks or months, and received medicine and sympathy without work, they almost invariably become *goée-goées*, which, being freely interpreted, means good-for-nothing hypochondriacs.

JULY 27.—The remainder of the people of our caravan were transported across the Alexandra Nile to-day. Three of our cows were unfortunately lost; they stuck in the mud, and could not be got out of it. Emin Pasha, Stairs, Jephson, Bonny, and myself, are all down with the severest form of fever to-day; this I attribute to the cold breezes to which we have been exposed. I am still perfectly blind in my right eye, so that I feel a horrible sense of insecurity. What on earth could I do if a row occurred now?—pull the trigger for better or for worse, and probably shoot my best friend; which, I presume, would be only manslaughter, not murder.

The margin of this river forms a swamp on either side for a breadth of about 100 yards, which is thickly overgrown with papyrus.

The country which we have now entered is called Karagwé. The face of Nature here seems to wear features similar to those of the Ankori country—high, rugged mountain ridges, interspersed with deep ravines, and very little water, except what can be procured from stagnant swamps.

JULY 28.—We marched about five miles into the Karagwé country to-day, and halted, about 10.20 A.M., close to a swamp, as there was no other water to be got.

Mr. Stanley, Stairs, Bonny, and three of the men, had all to be carried to-day, each being prostrate with high fever. Three boxes of Winchester ammunition were thrown into the river yesterday, as there were no men to carry them; we have however, plenty left, as Mr. Stanley knows this country, and has been very fortunate in making friends.

JULY 29.—We marched eight-and-a-half miles this morning, and stopped at Mtagata, a region of thermal springs. There are seven separate springs here, and six large pools receive the warm water. They are all very much used by the natives,

who come from very long distances for the purpose of bathing in the waters, and also drinking them. They often lie in the baths for hours at a time. Mr. Stanley was familiar with this place, as he had visited it before. *Vide* Analysis "Dark Continent," p. 467.

JULY 30.—Some syphilitic natives are here, trying to wash the lues out of their systems with these thermal waters. The superficies of the baths varies, from twenty feet by twelve to six by three. The usual depth is about three feet. The bottom is of earth and gravel. The temperature of the hottest of the springs is 111° F.; the others are very little less. Close to the largest (*i.e.*, the most northerly) bath there is a cold water spring. There is a continuous current of water passing through each bath: a copious supply passing in, and a free discharge from each; accordingly, they are kept fairly clean. The hot water is not unpleasant to drink, and is very good to make tea with. This is such a contrast to the Karagwé water we have been using; the latter was extremely ferruginous. The water was almost undrinkable, from the amount of iron in it, and stained the swamps and river banks with its brown deposit. Plenty of slag was to be found both there and also close to the Semliki (where I performed blood-brotherhood with the Wahuma chief). It was evidently a native foundry, as hammers, anvil, bellows, and coke were found in abundance. According to the expressed opinion of my boy Muftah (and also of my faithful dwarf), this ferruginous water was of superlative excellence in tea making; for they had found, by repeated experiments, that a few grains of tea would make a given quantity of it as black and as strong for drinking purposes as would a spoonful in the case of any other water they had ever used (*i.e.*, of course, by forming tannate of iron).

I took a thermal bath, and found it extremely pleasant. These baths occupy the south-western extremity of a ravine or glen, which ends here in a *cul-de-sac*, being enclosed by precipitous hills all around, except on the eastern side. There are rhinoceroses in this part of the country; Mr. Stanley had a shot at one yesterday, and some of the men are out to-day trying to secure rhinoceros meat.

One of Kibbo-bora's wives died of dysentery to-day. I told him, five or six days ago, that she would die if not attended to; I then gave her medicine once or twice, but when she felt

a little relieved she gave up attending, and her husband gave her a load to carry. So her tender-hearted spouse really killed her, by his exercise of the two-fold office of neglect and cruelty. When she was dead, however, as is the custom with the Manyuema, he and his harem howled most piteously, night and day, for about twenty-four hours.

JULY 31.—We marched to a banana plantation to-day, where we camped for the night. One of Nelson's chiefs was suspected of having stolen cowries, and was placed under arrest; but on sifting the evidence, he was found "not guilty," and at once released. Kendi, my tent-bearer, deserted; and Hari, my chief, was then appointed to the duty of carrying it.

Of all the negroes, pigmies, cannibals, &c., &c., which I have met with in Africa, the Manyuema are certainly the worst and most vicious. Some of the men are, however, very fine specimens of the human animal, if regarded from that point of view only; and some of the women are undeniably handsome, with beautiful necks and shoulders, high foreheads, thin lips, and thin, well-formed noses; with other features and formations, which combine to give them a well-proportioned figure, that stands out in striking contrast to the pendulous, gross, and ungainly figures of the Nubians and Egyptians. The Manyuema women, when sufficient material is provided, wear a long cloth tied around the chest—at the average height of a low-body European dress, both fore and aft—and hanging to the ankles, without any embroidery.

AUG. 1.—We marched on to-day till we reached a very large banana plantation, where my little pigmy woman was suddenly struck down with extremely high fever. Since we left the great forest she has had several severe attacks, but struggled along in spite of increasing weakness, and would persist in accompanying our caravan. In common with all the other pigmies who followed us into the open plains, she suffered greatly from the direct rays of the sun, although she had the exclusive use of an umbrella which I made for her. I also gave her the pair of scarlet breeches which Mr. Stanley had kindly given to me; these she managed to cover her head with, by passing her arms through the legs—in which arrangement, of course, the then upper portion of the inverted garment was easily made to accommodate itself to her head. Like all natives, when at all ill, she lies on the ground, thinks

she is going to die, and will make no effort to get along. Most of the pigmies who left their homes in the dense shady forest, and accompanied us out to the open plains, have now pined away. I leave my poor little Monbuttu woman here with friendly natives, as she is unable to accompany us any further, and we have no carriers. She is a very great loss to me indeed; while she was able to do it she always carried my food. She was a universal favourite in the caravan, and our parting with her was a very pathetic one. I had good reason, indeed, to be grateful to her for the past. I have to thank her for the comparatively good health which I enjoyed in the forest, especially during the starvation period; when she collected for me the roots, leaves, fungi, insects, &c., &c., which were good to eat, and which were, of course, known only to the natives. I might have starved, or might have been poisoned, had it not been for her ministering care. She was always devoted and faithful to me, and, unlike some other ladies of the Dark Continent, her morals were entirely above suspicion. Her parting was singularly affecting and grateful, and her loss really cast a gloom over the caravan, as she was such a general favourite, always cheery and obliging. Although her scanty costume only consisted of Mr. Stanley's scarlet breeches, an umbrella, and a vine tied around her waist as a belt—from which nothing was suspended; yet this little dwarf always maintained an exalted dignity and superior position amongst the other women of the caravan, and never once have I known her to be a trouble to any one. She nursed me through many and many a fever with characteristic gentleness and modesty, and her last act at parting was to give me the ivory bangles which she wore in the forest, but which had now dropped from her attenuated arms and ankles. *Vide* Nos. 20 and 23 on page 500.

We saw the Merure lake to-day.

AUG. 2.—We marched about seven miles this morning, and halted in a banana plantation. Our water supply is, unhappily, a mile and a half away. Yesterday, indeed, it was still further off. We saw the Windermere lake to-day.

Last night Mr. Stanley called me up a little after midnight, as he was suffering greatly from muscular pains in the calves of his legs. I gave him a hypodermic dose of three-quarters of a grain of morphine, which relieved the pains, and he went to sleep soon after.

Aug. 3.—We reached Kafurro shortly after 11 A.M. to-day, and camped on a site which had formerly been occupied by trading Arabs, but is now the wretched-looking wreck of a deserted settlement. All the mud-walled houses which had been built by the Arabs in the prosperous days of their trading here, are now thrown down. The place was, it appears, formerly occupied by five or six well-to-do Arabs, with their respective households. All but two of them are now dead, and these survivors have gone to Unyanyembé and Msalala respectively. The several graves occupied by the deceased Arabs are still to be seen; and the only living relics of their residence are one lemon tree, and some tomatoes, which they had planted.

We saw the Windermere lake again to-day.

Aug. 4.—An old man named Kiengo came to see Mr. Stanley; he had accompanied Speke and Grant as far as Uganda. The old fellow is very comfortably off, and his hut is surrounded by a large cattle kraal. He fee'd me with a sheep, for some professional advice which I gave his son.

The king of this country, a boy of about sixteen or seventeen years of age, sent word to Mr. Stanley to rest in camp to-day and to-morrow, and that he would send plenty of food. The natives bring small quantities of potatoes, flour, chickens, &c., to our camp to sell, but they ask enormous prices.

Most of the people here wear skins; the remainder are clothed in Manchester ware—of very indifferent quality, and very dirty.

Aug. 5.—Jephson ascended the hills to-day to pay his respects to His Majesty the King. He found the royal personage living in a small hut of circular shape—insignificant-looking without, and extremely filthy within—and looking more like a "sweep" than a representative of royalty.

This appears to have been an important commercial locality in the prosperous days of the Arab settlement. The Arab traders attracted large markets for the purchase of ivory. All this is, however, now changed, and there is nothing but desolation about.

I paid a visit to Kiengo to-day. He has about fifteen huts within his courtyard, and a plentiful store of dirt. He "receives" on a barazan. The king sent a present of food—insufficient to feed our people for one day.

Aug. 6.—The king sent a very few bunches of bananas to us to-day. I sold Kiengo a £25 hammerless gun (by Reilly) for about eighty yards of cloth—very inferior stuff indeed. With the usual African instincts of bargain-making he sent me in return four doti of the cloth, accompanied by a message promising that he would give me the remainder in the early morning when we were starting off; as we would have to pass by his hut, and that I could give him the gun at once. Like most negroes, however, he had some difficulty in getting out the truth; so, after some hesitation, he took back the cloth, and left me the gun. On these data, I diagnosed the presence of ignorance, attempted craft, and savage stupidity in this case.

Karagwé, so far as we have seen it, is the least fertile and least enterprising of the African territories through which we have as yet passed. Kafurro, the capital, is armed by, at the most, between thirty and forty rifles. Very few of the natives appear to do sporting or hunting of any kind. Any one of them who possesses a rifle carries it about with him, whether he has any ammunition or not. The king's hut (palace!) was, like most of the dwellings in this part of Africa, entirely unfit for a human being to live in. His present to us was a very shabby one.

Aug. 7.—We marched to-day over very rough gravelly ground, and then up precipitous hills, which we found extremely laborious work. From the hills we saw a lake (Muero), which had, I believe, been seen by Speke and Grant. This is a very barren, dried-up, uninteresting country.

Aug. 8.—Our native guide had originally engaged to come with us to another camp, but refused to-day; and requested to be paid, so that he might return to his friends and relations. He thought that he understood fellows like us. But Mr. Stanley brought him on to the next camp, where he gave him his cloth, and permitted him to depart in peace.

Aug. 9.—We camped to-day in the midst of bananas. Ten cows were killed to provision our caravan.

Stairs and I both have fever to-day. In the evening Mr. Stanley invited Stairs, Nelson, Jephson, and myself into his tent for a chat. We found him in remarkably good spirits, which he attributed to a relieved liver.

I purchased four chickens to-day for a cow-skin—two babas

(males), and two bebes (females). We remained in camp, as we are collecting a supply of food for six days—before starting forward again. Yesterday was the coldest day I have ever experienced in Africa—up to about 2 P.M. *Several of the little children died from the intense cold.* Every one of the small people seemed to stiffen up with the chill, and appeared entirely unable to use their rigid limbs. As the sun was not visible, and rain continued to fall till some time after noon, fires were lighted along the route, and the little ones were brought near them, and made comfortable with the warmth—a precaution which certainly saved many lives.

AUG. 10.—We started early this morning: first marching down a steep hill, then immediately up another, equally steep and rocky; from which we descended a fearfully rocky and sharp incline; then passed on to a large swampy plain—overgrown with papyrus—and reached Lake Urigi. This body of water is about fifty miles in length, but narrow, and shoots out branches in all directions.

We had marched from 6.30 A.M. till 2 P.M. My temperature has been at 105° F. all day long.

AUG. 11.—We marched across hills and valleys to-day, and camped—again near the lake. We procured two large fishes from the natives here; both of them contained flat worms, so I unhesitatingly denounced them as unfit for human food. I also gave directions to have all the water thoroughly boiled before drinking.

We marched from 6.30 A.M. till 11.30 A.M. My temperature was 102° F. when starting; when we halted at camping-place it was normal—an experience which demonstrates pretty satisfactorily that *exercise does not prolong an attack of this fever*, although when in a low condition fatigue certainly aggravates it.

CHAPTER XXVI.

MR. MACKAY'S MISSION-STATION AT USAMBIRO.

Unprovoked attack on the natives by some of our worst characters—Fathel Mullah, a Nubian, is handed over to the natives for punishment—The march to Ruanda—Present from the old chief in return for professional advice—Our first glimpse of the Victoria Nyanza—Delay caused by non-appearance of promised guides—Sorcery among the natives—We camp on the shores of Lake Victoria—Charmed lives possessed by the Europeans of the Expedition—We enter the King of Usui's dominion—Remains of a dead Zebra—Flight of natives from their huts while passing through Usambiro's country—Quantities of honey—A strange custom of King Mirambo's—Local rumours—Perpetual inter-tribal animosity—Lack of good drinking-water—The French Missionary Station at Bukumbi—Hearty reception by Mr. Mackay at Usambiro—Description of the mission station—Mr. Mackay a wonderful mechanic—Welcome news and letters—The Germans and Zanzibar—My experiences of malarial fever from the Ruwenzori range to the Coast—The symptoms and progress of an attack of fever—Miss Berkeley's experiences of African fever among missionaries—At all altitudes we suffered with fever—Administration of quinine for fever—No cases of the hæmorrhagic form of malarial fever—Mr. Mackay kindly replenishes my stock of medicines and provides other necessary articles for our use—English missionaries in Equatorial Africa are much handicapped—An attack of ophthalmia prevents me from finishing my regular diary—Chances of survival of the white man in Africa—The principal varieties of African produce on which we subsisted—Plantains and bananas—Potatoes—Meat and fish—Insects and reptiles—Cereals—Manioc—Cassava—Forest beans and fruits—European provisions—Mboga—Mohoga and other leaves on which we subsisted—Patience and forbearance of the Zanzibaris during their trials of starvation—My Zanzibari chief, Feruzi Ali—Our exhausted condition during the starvation period—My medical experiences on board the S.S. *Madura* and *Oriental*—Description of Tippu-Tib and his staff as observed by me on the S.S. *Madura*.

AUG. 12.—Grouse-shooting begins to-day; I feel sure that they are having a rough time of it. It has, moreover, been a very tragic day with our caravan. We halted in a well-sheltered camping-ground; and, shortly after arrival, some of our worst characters strolled off among the native huts—although this was directly contrary to orders—with a view to appropriating anything they might think it desirable to covet. They, however, found the unoffending native very much

disinclined to yield up his property. As was natural between parties so diametrically opposed in their views, a dispute occurred between the prowlers and the rightful owners, and one of the Nubian soldiers we brought from Egypt, named Fathel Mullah, fired at a native, and killed him on the spot. The villagers followed these looters into camp, and complained to Mr. Stanley of the unprovoked attack and the murder. The companies were fallen in, so as to detect the aggressors; the natives identified this man, who, on investigation, was found guilty of wilful murder, without any extenuating circumstances whatever. He was, accordingly, at once handed over to the natives for the infliction of punishment. They greedily rushed upon him, and seized him—as only savages can do—with eyes glaring with demoniacal delight, and a horrible grin of vindictive satisfaction displaying their white ivory-like teeth, which gnashed with the rage they were about to quench in his blood. It was a horribly thrilling sight to see him dragged off by his captors. He had a most scoundrelly-looking face, and they hauled him off, in spite of his abject entreaties, to spear him to death, as is their custom, for it is "blood for blood" with these people. He certainly was an atrocious ruffian, and thoroughly deserved his horrible doom; still it was a dreadful scene as he was brought off to receive the treatment that awaited him at the hands of his executioners.

Aug. 13.—We marched early to-day, and ascended a steep rocky mountain to a plateau above; through which ran a river, on its way to the lake we had left behind us. We passed a few banana plantations, and a native village; the inhabitants of the latter seemed disposed to levy a toll from us for permission to pass through. We camped close to the river.

Aug. 14.—We remained in camp all day, for the rest's sake which the lazy gang of the Pasha's followers were so anxious to indulge in; we also wanted time to make distribution of local money for the purchase of rations. To each member of the Expedition thirty-two cowries were given, for the purchase of four days' rations. The Zanzibaris, with their characteristic prudence and forethought, soon spoiled the native market for us; a fowl could be purchased for five cowries in the morning; in the evening, the wily natives demanded 100 cowries for a similar article.

Aug. 15.—We made a long march to-day—through a very

picturesque country—and reached Ruanda. Here we had an hour's delay, while waiting for the chief's permission—or, rather, for him to make up his mind to give his permission—to march through his country for two days. Mr. Stanley appears to me to have too much patience with these kings, and queens, and princes; halting an entire caravan of nearly 1,000 people is no trifle, even to please an African monarch.

AUG. 16.—The old chief who rules here is very feeble. I gave him some medicine, and he sent me two pots of *pombé* (banana wine), and two bunches of bananas. He also sent a goodly present of bananas to the Expedition—more than did the stingy King of Karagwé. We have got our first glimpse of the Victoria Nyanza from here. From this camp to Msalala, the site of Mackay's Missionary Station (Church Missionary Society), is but two days by boat—it is eight days distant by land; this, however, means fifteen days for our caravan, with its ornamental Egyptian tail. We are all delighted at the prospect of once more receiving letters from our distant friends to cheer us; as we are now pretty well sick of adventure and exploration. We have still a period of four and a half months separating us from the coast, and I feel thoroughly worn out.

AUG. 17.—Suliman Effendi, one of the Pasha's officers, died last night. We are again obliged to wait here for the day, as our guides will not be forthcoming till to-morrow. This is certainly done on purpose by the leery old chief, so that he may have a day's more doctoring and medicine, and also a brisk market. I visited him again to-day, and gave him some "Livingstone Rousers." Everything about the old sinner is mysterious, and, like most native Africans, he is excessively superstitious. Yesterday his people asked me whether a chicken should be killed. I replied in the negative. When this rite is performed, the sorcerer is obliged to name the person (of course, one whom he has a spite against) who has given the evil thing to the king. The chicken is killed, the liver and intestines taken out, and, when this has been done, the native wizard can at once tell who the ill-fated individual is that has given the king (or other sick person) the disease in question. They also wished me to tell them—at once, and decisively—whether *shitan* (the devil) was in his majesty's head. I pronounced an energetic opinion that he was not.

Had I replied in the affirmative, I would have been expected at once to point out who the person was that had put his sable majesty there, and the individual indicated would have been immediately sacrificed, according to custom. It is pretty obvious that the native sorcerer (or doctor) has a splendid vantage-ground for the extermination of his enemies.

AUG. 18.—We marched this morning from 6.30 till 11.30 A.M., when we camped in a plantain grove on the shores of the Victoria Nyanza. The water of this lake is much fresher and nicer, in all its physical qualities, than is that of either the Albert Edward Nyanza or the Albert Nyanza itself—or, indeed, of any other African lake I have seen. There seems to be very little growth of papyrus or rushes on the shore, and numerous islands lie in a continuous line along—at a distance of from half to one mile from the shore, somewhat like the Aleutian chain as it looks on a map. We have been travelling on the elevated plateau ever since leaving the Urigi lake; so we had to descend, over very rocky ground, through a height of 600 to 800 feet, to get to the plain below which surrounds the Victoria Nyanza. We have had so many ups and downs, however, in our recent progress, that I shall not be surprised if we ascend again to-morrow.

Immediately on arriving at Msalala, Mr. Stanley is to send off a courier with letters; we may receive some, but some must be sent in any case, besides those to private friends. We reach Msalala in twelve or thirteen days, probably. We must have some friends to meet us at Zanzibar; we must there don some decent clothes, and then try and find our way home, perhaps *viâ* Cairo. I am fairly puzzled as to what I shall do when I get there, as I came into Africa a beggar, and am leaving it in still greater poverty; but, thank heaven, we are all alive, and we may be able to assist each other.

We Europeans bear charmed lives; exactly two years ago —by this day—I was very nearly hit by a poisoned arrow; which actually passed between my arm and my body, and stuck fast in the wall of the hut, beside which I was sitting. Nelson and myself were having luncheon when we were attacked by the vicious natives. We had a small party with us, including Rashid, the head chief, and Hassani who had an arrow driven deep into his back. Dreadful wind and rain we also had on that fateful day; and the men in such a deplorably

weak condition! One lay down and died on the road as we marched; two who were carried into the camp died in their improvised hammocks; they had perished from exposure on the way, and their demise was not discovered till the end of the march. One of the men was killed in his hut by an arrow which pierced his aorta. We were then returning from our seven days' wanderings in the forest with Jephson.

Shaban Majera was lost to-day; he had a large ulcer, and evaded the rear-guard by hiding in the tall grass.

AUG. 19.—We left camp this morning at 6.10 A.M., and marched till noon, when we again struck the Victoria Nyanza, and camped in the open, on a burning hot plain. We are now out of Kajumba's country, and in the dominion of another. The king of Usui has conquered all this land down to the lake shore, so that we shall have to encounter him to-morrow or next day. The kingdoms are becoming more numerous as we proceed, and our route has happily enabled us to avoid the mercenary demands which, we understand, this king makes on pilgrims passing through his territory. We may have a brush with him, but it will be over with a few shots. He retained old Kajumba a prisoner for four months; and has a trading Arab imprisoned at the present moment, who had been making his way through the country to Karagwé.

This is a scorching hot day.

AUG. 20.—This morning we passed a dead zebra on the march, which had been killed by a lion or a leopard. I stopped for half an hour with the remains of the animal, and, among other attentions bestowed, I cut off its mane, which I intend to bring home. We entered a new country to-day, called Usambiro; and fully expected to meet with some opposition to our progress, as it has been conquered by Kassasura, king of Usui. From the reputation of this royal personage, we had been led to anticipate that he would levy a poll-tax on us for the privilege of passing through his territory, a piece of politeness which would have certainly been resented. We received, however, no trouble whatever from the natives; although we marched for five hours—about ten miles. We are now but five days from Msalala.

AUG. 21.—We marched about eight miles to-day. The natives appear to be greatly frightened at our appearance; they leave their huts and run away as we approach. Very

few of them have had the pluck to come into camp. There is a great deal of honey in this country; indeed, since we left Ankori, there has been honey for sale everywhere. The natives suspend portions of trunks of trees, hollowed out somewhat in canoe pattern, here and there among the trees; the bees build in these traps, and the honey is secured in this way. It is very rich and sweet; the flavour is a little rank, but it sweetens tea and coffee. We give it in exchange for calico, beads, &c.; but here the natives will not take cowries at all! There is no accounting for differences of taste.

Aug. 22.—We marched eight miles to-day, and reached a village surrounded by a boma, and occupied by Wanyamwezi. We are now in Usukuma, where many of the inhabitants speak Swahili. I have seen a good many of the Wanyamwezi whose hands had been cut off at the wrists; this had been done by order of Mirambo, the great king of Unyanyembe, who always amputated the hands of his prisoners of war, so as effectually to prevent them from fighting against him another time. The operation is performed by laying the hand on a board, and chopping it off.

Aug. 23.—We marched fourteen miles to-day, and reached another Wanyamwezi village, where we obtained plenty of food to buy—rice, &c., &c.

Aug. 24.—We took our ease in camp to-day; many were footsore after the continuous marching of the last six days—averaging about nine miles a day. We hear that two white men are at Msalala, but that Mackay has gone home. All these local rumours must be, of course, taken *cum grano*, as the natives in most places are only acquainted with the news and scandal of a radius of two days or so. This is chiefly due to the fact that each tribe fights with its neighbour. However, we members of the E.P.R. Expedition should not complain too much of this unhappy state of things; had it not been for this perpetual inter-tribal animosity we should never have been able to cross Africa with our lives. We could never have penetrated the domains of large united tribes like those of Uganda, Unyoro, or Ruanda.

Aug. 25.—We marched about seven miles to-day, and camped in a low scrub or bush. A few natives visited us and sold us tobacco.

Aug. 26.—We camped to-day in the bush. The most

important feature of our surroundings was the very bad water which we were obliged to use. I have not seen a running stream since we left the Alexandra Nile. We halted after six hours' good marching. Mr. Stanley bought a large pot of honey, which he distributed. Bonny is down with a sharp fever to-day; he complains that he eats nothing; this is, however, an advantage in this country, where travellers so often have nothing to eat.

AUG. 27.—We marched for six and a half hours to-day, and reached a very fine set of buildings, surrounded by a boma. They had been erected by the French mission with much care and taste, but for some reason had been evacuated and abandoned afterwards. There is first an outer boma, within which are some grass huts; then an inner boma, enclosing six separate buildings, four of which are built of mud. These are each thirty yards long, and furnished with large verandahs. The others are constructed of wood; and all have grass-thatched roofs, the grass being, in its turn, covered with mud. All the houses are furnished with well-made wooden doors and windows. The chapel is extremely well-built; it contains various sacred ornaments, and has a cross above the roof. The other buildings are each divided into rooms—kitchen, workshop, and bedrooms. The whole is extremely neat and well-constructed, and reflects the highest credit on the priests to whom the place owed its origin; indeed, my private opinion is that the example of superiority and skill shown by such work is much more likely to leave a lastingly useful impression on the African native than an endless amount of theological and moral oratory.

AUG. 28.—We marched to-day to the southern end of the Victoria Nyanza—to Usambiro, where the Church Missionary Society have a station. Here we were met by Mr. Mackay, the famous missionary, who had been kept prisoner in Uganda, and Mr. Deakes, another missionary. They gave us a hearty reception, and showed us some old newspapers, in which we read a good deal of interesting matter quite *new* to us poor benighted travellers. We read of the "NITRATE KING," and fancied that some new state had been formed; of the "SWEATING SYSTEM," which we thought had something to do with the Turkish bath; of the "CONVERSION OF THE EGYPTIAN DEBT," which, according to Mr. Stanley's explanation, was merely

changing it from Mohammedanism to Christianism; and so on. The Mission Station we found well-built; the houses had mud walls, and were furnished with large verandahs. A huge workshop, where Mackay was building a steam-launch, with boilers, &c., all complete, elicited expressions of great admiration. The Station is surrounded by a boma, formed by strong poles, which are firmly fixed in the ground. The site is on a very dry, barren soil, and the nearest water is that of the Victoria Nyanza, quite two miles off. At the southernmost end is the Speke Gulf.

We arrived here about 11 A.M. this morning, and ate up everything we could lay hands on, in the shape of food. Mackay and Deakes were most cordial and generous, and threw open all their stores to us. We got delicious tea, coffee, and biscuits. Every evening Mackay and Deakes have about twenty children into their room, who pray and sing hymns. The pity is, that there are only *two* individuals belonging to the Church Missionary Society, to do the work of twelve. The French Roman Catholic missionaries, who are higher up on the Lake, are six or seven in number, and grow fine cabbages and other vegetables. They had a supply of clothes and boots, which we bought from them for some dollars, to be paid at Zanzibar. All the missionaries were on good terms, and were most kind to us. Mackay is a very superior fellow, and a wonderful mechanic. He has made large carts with wheels to portage heavy timber, builds boats and houses, &c.; and in this way gains the admiration of the natives, who respect him, as he shows his superiority in some practical way which they can understand.

AUG. 29.—We rested to-day, and enjoyed the first European news we had heard for nearly two and a half years. Our first question was, whether her Majesty the Queen was still alive; then H.R.H. the Prince of Wales; then the Princess of Wales. We heard of two dead Emperors of Germany; no campaigns; that the Panama Canal was still unfinished, &c., &c.

We distributed rations of beads to all the men; read newspapers all day; none of us received letters, with the exception of Mr. Stanley and Stairs, who got two each. We heard of some fighting between the Germans and the Arabs at the coast, and accordingly, we are disposed to think that all our letters have been captured by the Arabs; or if, perhaps, they

had escaped the Arabs, and passed through to Uganda, they would certainly have been seized there, on account of the rebellion. Our latest newspaper is February, 1888, so that we only got the news of the "Failure of the Emin Pasha Relief Expedition"—printed while we were working hard and doing well. We are short of necessary raiment; but we find that Bishop Parker and two other missionaries have yielded up the ghost, leaving their clothes, which we are only too glad to purchase.

When we started with the Expedition, we were constantly chaffing the Zanzibaris by telling them that the Germans would have Zanzibar when we returned; they always replied that the "Bebe" of England (*i.e.* the Queen) would soon make it all right for them, and not see them badly treated, showing the extreme confidence which they had in the Baluzi (British Consul-General), formerly Sir John Kirk, now Colonel Euan Smith, C.B.* It is really curious that our frivolous jokes should have been verified so truly.

Aug. 30, 31.—Sun extremely hot. We received a small quantity of European provisions, which had been ordered by Mr. Stanley.

Ever since we left the precincts of the Ruwenzori range our caravan has been terribly stricken by the pestilent plague of the local malarial fevers. While we were within a moderate radius of the *lunar* mountains we had a fairly copious and pure water-supply; but since we got well without their area we have had to utilise the water of stagnant pools, which are habitually haunted by herds of cattle and other animals, who resort to them for the purposes of washing and cooling themselves, as well as of quenching their thirst; also that of papyrus swamps and their overflow rivulets, the liquid of which was often of a porridgy consistence, from the amount of suspended mud, composed of every conceivable variety of inorganic and organic matter, and sometimes so richly ferruginous, that partaking of our tea-beverage prepared from them simply meant drinking ink; while other specimens were so laden with sulphurous compounds or decomposing vegetable matter, that the smell was often enough to sicken the stomach before it reached the mouth at all. Under such circumstances, it is not to be wondered at that the malaria prevailed against

* Now Sir Charles Euan Smith, K.C.B.

us as a raging epidemic. In addition to this inexhaustible supply of the marsh-miasm, we had, in the extremely hilly country of Ankori, the additional factor of perpetually-recurring draughts and chills as we passed up hill and down ravine. We always reached the summit in a bath of perspiration, from which we were invariably dried by a chilling breeze as we descended to the base of the same elevation. As we meandered along the tortuous downward path, we experienced the benefit of the gusty blasts on every possible aspect of our bodies, so that we reached the bottom of every valley in a universal shiver. When the valley was furnished with a papyrus swamp, to whose margin we had to accommodate our path for some distance, and from which we had to ascend another steep, from whose summit we passed down to another ravine and another swamp—and so on, hour after hour, for the day's march—there is no questioning the fact that we were furnished with all the data for the development of intermittent fever. These conditions were further emphasised by the great range of the diurnal temperature in those districts: the thermometer falling in the evenings as much as 20° C. in a few hours, so that a very chilly night, to whose influences our men were often almost completely exposed, would be followed by a biting, breezy morning, with hoar-frost on the surface of the ground, and during which we were obliged to prepare for the day's march. The reasonable result is that every single member of our whole caravan, which includes about 1000 souls, has suffered from fever during our progress through the hilly district of Ankori; even the natives themselves did not escape. My experience of it has indeed been copious enough to serve me for a lifetime. Another factor, which I am sure greatly increased the susceptibility of our people to malarial influences, was the exposure to the direct rays of the sun, without sufficient protection for the head and spine. This was when we reached camp, as the boxes protected the head on the march. Our immunity from sunstroke has certainly been very remarkable; but there is no doubt that the systems of the men are affected by the exposure, although we have met with so few of the phenomena of heat-apoplexy.

In some of the cases of fever, the symptoms have developed quite suddenly, without any premonitory stage; this is, however, exceptional. In the great majority, the attack is pre-

ceded by general malaise, accompanied by constipation, with flatulence and eructations, dull aching pains over every muscle and bone (worst over the loins and about the knees), with severe cramps in the legs. The back-ache sometimes comes on as suddenly as if the patient had been struck heavily across the loins with a stick. At the same time, there is a decided tendency to increased activity of both mind and body, with rapid respiration, and quick, thumping action of the heart. The complexion, at the very beginning, looks sallow, but soon becomes florid and congested, and the eyes develop a peculiar wild, staring, brilliant look, which is very characteristic. Pain in the temples is also an early and a prominent symptom, and it persists throughout: sometimes even till a day or two after the temperature has gone down to the normal standard. Vomiting also appears early, and is very persistent; when a large quantity of biliary matter is brought up in the early (cold) stage, it often gives great relief. The crisis is sometimes accompanied by very profuse sweating, which gives extreme relief. There may be no initial shivering. The temperature sometimes falls without any sweating; but in this case the fever almost invariably returns. Sometimes the paroxysms recur with such frequency, that they run into each other—intermittent then becomes remittent. This is, of course, indicative of the inception of a very large dose of the poison. The excited manner, extreme talkativeness, staring look, flushed face, and restless activity of the initial stage sometimes look actually like the early stage of alcoholic intoxication. In severe cases, when the fever approaches the continued type, the patient's frame will be found, after a couple of days, to have shrivelled, apparently, to about one-half its original bulk. Great prostration is felt, and this remains till the convalescence has been well established. The legs feel extremely weak and shaky, a symptom which also persists for a good while after a bad attack. As often as not, in the vast number of cases which occurred in Ankori, there was no third stage. The first, or cold stage, is always the shortest; the third usually the longest, when there is a second present. The blood-pressure in the renal vessels is, of course, greatly increased, as the superficial vessels are all contracted. An increased secretion, of rather low specific gravity, is the consequence. From beginning to end of the fever the

tongue is nearly always coated with a whitish fur; which, as the pyrexia subsides, gradually clears off, from the tip and edges towards the base and septum. In severe cases, when the fever approaches the continued type, or when there are sharp paroxysms with short intermissions, the patient, after two or three days, usually complains a good deal of distressing tightness about the chest, or a feeling of suffocation; this is chiefly due to the enormous enlargement of the spleen. There is often a good deal of pain complained of along the course of the larger nerves (great sciatic, anterior crural, median, &c.). Towards the end of an attack the renal secretion becomes darker, and mixed with bile.

The muscular pains and subsequent soreness, and the reference to the joints (knee, &c.), are often strongly suggestive of some close similarity between the circulatory lesions of our fever cases and those of rheumatism. Both can be intelligibly explained, I think, by the presence in the lymph-spaces of an enormous excess of tissue *débris*, especially muscular. We know that the chemical changes in muscular tissue furnish by far the greatest part of the heat of the human economy; and, as a sudden attack of pyrexia accordingly indicates an explosive molecular change throughout the muscular system, we necessarily have, under such circumstances, a greater quantity of muscular waste washed into the lymph-spaces than can be taken up by the minute lymphatic vessels. The complex chemical compounds so formed—the predecessors and congeners of the *uric acid* of gout, the *lactic acid* of rheumatism, &c., &c.—simply poison the fluids of the tissues till the system has had time to get rid of the excess by gradual excretion.

The patient suffers from an atonic state of the walls of the alimentary canal, which is indicated by the fact that for some time before and after, as well as during, the fever any aperient medicine given must be administered in a larger dose than is required during health, in order to produce any effect whatever.

[When returning homeward from Zanzibar (per the British I. S.S. *Katoria*), I met Miss Berkeley (11th January, 1890) of the Zanzibar branch of the University Mission, who was returning by the same steamer. This lady informed me that during her African experience of the past five years, of the thirty male members of the Mission whom she had known as

residents in the "Dark Continent," six had died, and five others had been invalided home; while of the lady missionaries not one had died, and nobody had been invalided during the same period. This narrative corroborates very strongly, I think, the opinion I had already expressed in my diary, of the fatal importance of direct exposure to sun and chill in the production of African fever. The cause of this enormous difference in the mortality of the male and female members of the Mission is, I believe, due to the fact that the duties of the latter kept them under the protecting shade of their houses while the men were obliged to go about and expose themselves—at all hours, and under all circumstances.]

I may mention that we suffered from fever at all altitudes, up to 10,000 feet above sea-level. The prophylactic treatment which we adopted betimes was certainly more effective than any curative treatment that I know of would have been. About ten days or so before entering the mouth of the Congo, each officer of the Expedition was given four grains of quinine twice a day; and, from the time we entered the mouth of the Congo, on the 18th of March 1887, till we reached Stanley Pool, on the 22nd of April, a distance of 350 miles, there were but one or two cases of fever amongst our officers; although the quinine was taken but very occasionally during this interval. The Belgian officers, stationed at Stanley Pool, told us that our exemption from fever was most extraordinary and unusual. The white officers of their caravans, when on the same march, had suffered incessantly from fever, and many of the number had died. In strong contrast, indeed, to this was the history of our caravan; which, although it included the largest number of white officers who had ever travelled together over the same ground, had had but one or two cases of fever—neither of which was excessively severe—and recorded no death. The result impressed us all so strongly with the value of the prophylactic treatment, that, so far as our stock of quinine permitted, we pursued it all through our entire expedition.

The administration of quinine after the attack of fever has commenced is entirely useless, it is nearly always rejected, and, if retained, it does no good. When the temperature is lowest, a large dose should always be given; this is usually in the early morning. ("Quinine and Orange Wine," is an extremely nice preparation to take.) An opiate or hypodermic

injection of morphine administered in the early stage gives great relief from the terrible rachialgia, which is one of the severest symptoms. As the paroxysm advances, a hypodermic injection of pilocarpine is very useful, as it produces profuse sweating, and really has a magical effect on the symptoms. In the course of an "intermittent," in which we know when to expect the advent of a paroxysm, a large dose of quinine (forty grains), given four hours before the attack is due, is sometimes of use. Arsenic, or Warburg's tincture, succeeds in some cases where quinine fails. I have tried "jvara-hari" and other drugs, but did not find them superior to quinine.

The hæmorrhagic form of malarial fever is pretty often seen among white travellers (or settlers) on the Congo; but we had no cases among the members of the Expedition excepting Stairs' and my own. It is a truly deadly disease. It is accompanied by extreme nervous exhaustion, with very deep jaundice, and copious renal hæmaturia. The secretion is of the colour of XX stout, and is found, on examination, to be loaded with blood-corpuscles, and blood-casts from the uriniferous tubules. Very few cases have been seen on the east coast.

Our stock of medicines was now at a very low ebb as we settled down to our comfortable rest at Usambiro. Our warm-hearted and truly generous host, Mr. Mackay, now kindly furnished me with a few items; vaseline, one pound, sulphate of quinine, one ounce; permanganate of potassium, one ounce; carbolic acid, one ounce; calomel, half an ounce; and Warburg's tincture, six ounces. With these important additions to my armamentarium, I felt fortified for the march to Zanzibar.

As I possessed little or no raiment, I obtained, on payment, the following—very necessary—articles from Mr. Mackay:—

Shoes	1 pair.
Socks	1 pair.
Handkerchiefs	2
Sponge	1
Trousers	1 pair.
Umbrella cover	1
Pyjamas suit	1
Stud collar	1
Needles	6
Rum	1 bottle.
Soap	1 bar.
Soap	1 cake.
Butter	2 tins.
Candles	20
Drinking-cup	1

This is the first time we have used candles since June, 1887, excepting those we made at Mazamboni's; it is the first soap we have had since Christmas 1887, excepting what we manufactured ourselves. We have forgotten the use of the pocket handkerchief, and a pyjamas suit feels like a fancy costume.

Mr. Stanley had about thirty donkeys waiting here for him; which he divided amongst those of the Pasha's people who were invalids.

The English Church Missionaries in Equatorial Africa are very much handicapped, as there is on an average only one to every three or four French Missionaries to carry on their laudable work; also, the French work on a better system, as they teach the natives how to improve their worldly possessions and comforts—by planting European seeds, building houses, sawing timber, &c., &c.,—in addition to seeing after their spiritual requirements.

I mention with, I hope, pardonable pride, that I was never once carried by man or beast (except in passing rivers) while crossing Africa—about 5,000 miles—until October 1889, when within a month or so of the east coast: I was then obliged to ride a donkey, as my boots were worn out.

* * * * * *

An attack of ophthalmia, which clung to me till I reached the coast, prevented me from keeping a regular diary during the remaining period of our transit. No very remarkable incident, however, occurred in this interval—either medically or socially, except what has been told in the pages of "Darkest Africa." We continued to have a good many cases of malarial fever; but with improved nutrition and hygiene the remaining ulcers, which had for so long a time formed the great plague of the Expedition, gradually healed up and cicatrised.

With the declining altitude, and the unavoidable use of drinking-water from stagnant pools, fevers became very prevalent from the time we left the Ruwenzori range, and, as already mentioned, were maintained in great numbers by the alternate perspirations and chills of our marches through the hilly country of Ankori. Still, taking into consideration the privations to which we were subjected during the course of the Expedition, covering a space of three years, I think that its net results point very hopefully to the chances of survival of the white man in Africa. Of the thirteen Europeans engaged by

Mr. Stanley for the Emin Pasha Relief Expedition, seven marched across Africa, and arrived safe (and fairly sound) at Zanzibar, each having suffered from at least 150 attacks of African fever during the march. One died from fever; one was shot; one remained for ten months at Yambuya, and was invalided home; one remained at Yambuya for seven months, and was sent away with despatches (in good health); two remained on the Congo. Now, had we been subjected to corresponding hardships during a march of the same distance in any extra-tropical region I know of, I very much doubt whether the total result would have been at all more favourable. Eleven of our thirteen Europeans are still alive, and, I believe, in good health; one died a violent death; one, only, sank a victim to climatic disease, and he had been, I have little doubt, specially depressed and ill-cared for. Although we have been so fortunate in losing only one European out of thirteen through disease, over a period of three years, I am, of course, unable to say whether succeeding generations are likely to continue healthy in tropical Africa. In Egypt, successive generations of Europeans do well; and as Equatorial Africa, especially in the interior, is infinitely preferable in climate to Egypt, I see no reason why they should not flourish here also.

The peculiar-looking baobab tree is very plentiful between Lake Victoria and Bagamayo.

I have here tabulated a list of the principal varieties of African produce, on which ourselves and our men were obliged to exist during the greater part of the time occupied in trying to reach the shores of the Albert Nyanza.

Plantains and Bananas.—The fruit of the "*musa paradisiaca*" and "*musa sapientum*" respectively: extremely nutritious, and are the staple food for many tribes in India, Africa, America, and islands of the Atlantic and Pacific Oceans; they formed the principal food of the members of the Expedition—black and white—for above two years; they yield but one crop per annum.

The *Banana* fruit is shorter, more circular, and a darker green than the plantain (in Kiswahili it is called "kipakusso"), otherwise there is very little difference, one from the other. Cultivated from remote time in tropical and subtropical climates, and require very little attention. When ripe, are sweet, viscid, and with a soapy mawkishness; for the starch

which they contain becomes converted into mucilage and sugar.

Plantain meal, obtained by powdering the dried fruit, is very sustaining food; as it contains starch, and protein, or flesh-forming material. The chemical and nutritive composition of plantain is allied to that of potato, and that of banana to rice. The expressed juice, when fermented, makes a refreshing acid liquor. The name *paradisiaca* was given to distinguish banana from the plantain, which was supposed to be the forbidden fruit of Scripture, or the fruit translated "grapes," which the spies brought to Moses from the promised land; each bunch of either fruit weighs about forty to sixty pounds. The leaf is large, oblong, about five or six feet in length, with a prominent midrib used for thatch and domestic purposes—such as cooking, paper-making, &c.; the expressed juice of the stem is used as a prophylactic for itching, and the midrib makes a stem to smoke tobacco through; the foliage of banana is found represented on ancient Egyptian sepulchres.

Manioc, the tuber and leaves of *manihot utilissima* (*cassava*, *mohoga*); various other roots, excrescences, and parasites.

[I am indebted to Mr. Holmes, of the Pharmaceutical Society of Great Britain, for the following:—

"Cassava, a mandioca meal, is yielded by two so-called species, which, however, bear such great resemblance to each other that most botanists combine them. These are *Manihot utilissima*, *Pohl.*, the bitter cassava, a shrubby plant growing from six to eight feet high or more, with erect somewhat twisted knotty stems rising from long, thick, fleshy cylindrical roots of a yellowish colour, containing a poisonous milky juice, and bearing deeply seven-parted leaves on very slender stalks; crowded together at the tops of the branches; *M. aipi*, *Pohl.*, the sweet cassava which differs principally in having sweet wholesome roots of a reddish colour and usually only five-parted leaves; but these differences are not of specific value, and the plants must be regarded as varieties of one species.

"It is quite clear, however, that while the root of one is bitter and a most virulent poison, that of the other is sweet and wholesome, and is commonly eaten cooked as a vegetable. Both of them, especially the bitter, are most extensively cultivated over the greater part of tropical America, and yield an abundance of wholesome and nutritious food, the poison of the bitter kind being got rid of during the process of preparation it undergoes. This consists in first reducing the large fleshy roots to a pulp by grating them, the poisonous juice being then expelled by pressure, and the residual mass pounded into a coarse meal resembling bread crumbs, which is made into thin cakes or cooked in various ways, the heat dissipating any remaining poison. The poisonous expressed juice, if allowed to settle, deposits a large quantity of starch known as Brazilian arrowroot or tapioca meal, from which the tapioca of the shops is prepared by simply torrefying the moist starch upon hot plates, the heat causing the starch grains to swell and burst, and

become agglutinated together. A sauce called 'Cassareep,' used for flavouring soups and other dishes, particularly the West Indian dish known as 'pepper-pot,' is also prepared from this juice by concentrating and rendering it harmless by boiling."—*Treasury of Botany*, Longmans, 1876, p. 717–8.

To this extract, the following additional notes may be appended.

The poisonous property of the bitter cassava has been proved[1] by MM. Henry and Boutron Charlard, which, being a volatile poison, is driven off by the heat employed to dry the manihot cake, or to torrefy the starch into tapioca. The expressed juice, when concentrated by boiling to form the sauce known as cassareep, in like manner loses the prussic acid it contained. It is a curious fact with regard to this sauce, that it is stated to have antiseptic properties, so that cooked meat covered with it will keep much longer than if not so treated.

The occurrence of prussic acid in one variety of this plant and its absence in another variety has a parallel in the almond tree; the bitter almond containing prussic acid, whilst the sweet variety is free from it. It has, however, been stated, with respect to the sweet cassava, that the root does contain prussic acid,[2] but the poison can apparently be present only to an extent not injurious to life, since, according to Dr. Hamilton, the sweet cassava requires no other preparation than simply boiling or roasting; and even admits of being eaten raw with impunity.

The term cassava, cassada, or cassavi applied to these plants is, according to the same authority, a corruption of the original Indian name of cazabbi.

The bitter cassava is grown on account of its larger yield of tuberous roots, and to prevent accidents it is generally grown in a separate plot from the sweet variety.

I am informed by a lady, who resided in the West Indies, that the negroes state that the poison resides in the rind of the root, and that the fleshy internal portion is used by them as an antidote. How far the antidote may be of any use appears problematical. The occurrence of the poison only in the rind of the root, is, however, possible, for it is well known that in the potato the poisonous principle solanine is almost, if not entirely, confined to the rind and the tissue forming the buds or "eyes."

Dr. Peckolb, who has carefully examined the root,[3] finds prussic acid in all varieties of both sweet and bitter cassava, although present in smaller quantities in the sweet kinds. It does not exist as such in the root while it is in the earth, but is formed on contact of the root with atmospheric air, and its formation can be prevented entirely by immersing the fresh-dug root in alcohol. The power of forming prussic acid is greatest when the plant is flowering, and the plants richest in juice are usually the most poisonous. The cassava also contains, ready formed in the root, another volatile poison called manihotoxin, of which when extracted in crystals, five milligrams were sufficient to kill a full grown pigeon in five minutes.

The antiseptic properties of cassareep are due to the presence of a third body named sepsicolytin or fermentation hinderer, and which is more abundant in the sweet root. It was obtained as a thickish light brown extract, having a peculiar odour and a bitter pungent taste. It is freely soluble in alcohol and ether, less soluble in cold water, and only partially in boiling water, and insoluble in chloroform, petroleum spirit, carbon bisulphide and essential oils.

E. M. H.]

---

[1] Journ. de Pharm., xxii., p. 119.

[2] E. Francis. Journ. Roy. Agric. and Bot. Soc., Brit. Guiana, 1877. Pharm. Journ. (I.) v., p. 274.

[3] Pharm. Rundschau, iv., 148, 176, 201.

Potatoes (*Sweet*).—We met with six varieties of this more familiar esculent. On the plains, beyond the forest and towards the Albert Nyanza, they were particularly sweet and good.

Meat.—The Column shared, under different circumstances, the flesh of ox, goat, sheep, buffalo, giraffe, antelope, donkey, rat, monkey, fowl, and some minor etceteras; the longest time without tasting meat was 121 days or 17⅔ weeks.

Fish.—A few, generally very small, like gudgeon, but those we got in the Albert weighed sixty pounds; they were very muddy, and of the barbel variety.

Insects, and other lower invertebrates. In the forest we partook largely of *ants* as a condiment: also *locusts, slugs, snails, caterpillars*, and *lice*. The last four were not eaten by whites.

Reptiles.—Snakes' flesh was declared by those who tried it to be very good; the savoury smell when cooking was extremely appetising.

Cereals.—Indian corn, matammah, millet, sesame, rice.

Forest beans.—These formed a fairly substantial article of diet; they are almost circular in section—extreme measurements, about four inches by three. The exterior is of a dark chestnut colour. They require to be scraped up thoroughly, as they are very hard. There is a depression at one end for the stalk, by which they are attached to the parent tree. The bean is about a quarter of an inch in depth; the tree itself grows to a height of about 150 feet.

Forest fruits, as the *amomum, mabunga*, the *elephant* fruit, and many others.

Sugar-cane, brinjals, water-melons, peas, yams, pumpkins, hibiscus (to form a substitute for coffee). *Coffee berries* and *chillies.*

Among European provisions were, *tinned meats* (very little) *milk, butter, sugar, honey, biscuits, onions, tea, coffee, salt*, &c., also some beverages, and articles of luxury, *brandy, whisky, tobacco*, &c. They were small in quantity, and did not reach far into the interior of the Dark Continent.

The *mboga* or spinach, on which we mainly existed in the forest for many weeks, was a mixture compounded from the bruised leaves of different plants, six of which I will describe:

1. A green serrated leaf—half an inch to four inches in length—on which Nelson and myself almost lived during

our residence at Ipoto. The plant grows to a height of about seven feet, although most of the specimens which were used were only about two feet. The stem is green and succulent; the flower yellow, and like that of groundsel in appearance; the stamens have a somewhat disagreeable rankish odour. It grows most luxuriously where there is abundance of filth; and, accordingly, found a favourable bed in the vicinity of the Manyuema camp.

2. *Mohoga leaf.*—This grows on a small tree about three or four feet in height, and one to four inches in diameter. The branches are very numerous, thin, and extremely brittle. It has a tuberous root which is also edible. The leaves are green, and each is furnished with four or five leaflets. The leaf-stalk is reddish in colour.

3. *Leaf of sweet-potato plant.*—This plant grows in the form of a thin creeper running along the ground, and sometimes climbing the trunks of trees. The tubers—not unlike those of the English potato—are connected with the nodes. The leaf may be whitish; but is usually puce-coloured on the upper surface, and reddish on the lower. The creepers form a complete network over the face of the soil, throughout a great part of the clearings in the forest.

4. *Leaf of the pepper-plant* (chilli bush, or pislipsila).—This shrub grows to a height of about four feet—usually found in old clearings. It has numerous red pods, which, when dried and pounded, make the hottest "cayenne." The leaf is green, and makes a very good ingredient for spinach.

5. A green leaf, with an elongated and sharply curved point. It grows on a short succulent stem.

6. The leaves of the pumpkin.

On these six ingredients, combined in varied proportions—but nearly always with a large preponderance of the first—Nelson and myself dragged out the greater portion of our existence at the Manyuema settlement.

Our men, and especially the Zanzibaris, bore their trials of prolonged starvation with wonderful patience and forbearance; they were always willing to share their scanty fare with their white companions. When things were at the worst, many of them lived almost without a trace of food for about eight or nine days, after which they rapidly sank. Fortunately the blacks regard death as a mere quietus to human suffering, the

emancipation of sense from the bitter bondage of physical agony, though skill and power may sometimes interpose between the tyrant pain and the trembling victim.

During our three months' sojourn at Ipoto, Nelson and myself sold all our spare clothes, and everything else we had of our own, to procure ourselves a little food. We also bartered a few old mildewed coats and articles of underclothing which had been consigned to Emin Pasha by the Egyptian Government: they were not of much value as wearing apparel; but the brass buttons, with the crescent and star, proved attractive items in the eyes of our covetous hosts.

When Jephson was returning from Ipoto to relieve Nelson and bring him up from "Starvation Camp," he found a number of the skeletons of the poor Zanzibaris, who had evaded the rear-guard, by dropping out on the line of march, and had then simply lain down and died of starvation; for there was no means of transport then for either black or white. As I have already mentioned, they usually kept up with wonderful patience and fortitude till the powers of nature were almost completely undermined, when rapid collapse followed. One of the most affectionate memories which I have ever had reason to carry with me in life is that of the almost more than human kindness and faithfulness of my Zanzibari chief, Feruzi Ali; who, as mentioned in a former page, died from the effects of a wound inflicted by a huge knife which fractured and depressed the vault of the cranium, and caused death by extensive compression and laceration of the brain substance. That man often gave me a full half share of his scanty meal of forest fruit, when the whole would have made but a poor repast for himself, and when he could not say whether he would be able to secure another morsel for days to come. Bitterly did I regret that what small skill I could bring to bear upon his case was not efficacious in saving his life from the effects of the dreadful wound which the ambushed savage had just had time to inflict upon him.

When the starvation period was at its height, Stairs, Jephson, and myself, had our strength almost utterly exhausted by the continual repetition of the lifting of boxes on to the heads of our carriers, who dropped them from time to time to try and gather a little strength; after which neither

they nor their comrades were able to replace them. Mr. Stanley led the way, and Nelson was behind. We found it somewhat hard to maintain strength or spirits under these circumstances. Many of the men, on putting down their boxes in this way, crawled for a little way into the bush, and lay down to search on the ground for fallen forest fruits, insects, &c., but—*never rose again.* It *was* a dismal time, poor fellows; a dismal, dismal time!

My important medical experiences during the course of the Expedition have already been given in the previous pages. The trip from Zanzibar to the Congo's mouth lasted twenty-three days, and cost three lives only, which was by no means a high mortality, having regard to the crowded state of the vessel which we occupied, and the native repugnance to the laws of cleanliness and hygiene displayed by our blacks. The three deaths were respectively due to dysentery, pneumonia, and insolation.

Of pure dysentery during the whole remaining time of the Expedition I saw comparatively little; the intestinal cases, of which there were very many indeed, were almost invariably general intestinal catarrh, or gastro-intestinal: with the usual symptoms of moderate fever, severe bilious vomiting, abdominal pains, &c., &c., with a great deal of mucous discharge, sometimes hæmorrhage, and some straining, but little or no true tenesmus. Several cases of true dysentery also occurred during this voyage.

The very exceptional occurrence of sunstroke in Equatorial Africa has also been repeatedly referred to. We had a good share of bronchial and pneumonic affections on board the *Madura.* They mostly occurred among the men who slept towards the starboard-side of the vessel, and near the heat of the boilers. The exposure to the morning chills after this toasting during the night, proved quite sufficient to develop chest-symptoms in those who were not naturally furnished with more than the ordinary degree of *vis vitæ.*

A good deal of anxiety was developed by the occurrence of the case of small-pox on board the *Oriental,* and, as related in my diary for that date, I commenced to vaccinate almost immediately after leaving Zanzibar for the Congo. I had but a limited supply of lymph to utilise, but I vaccinated many from the vesicles of their comrades. I continued the ope-

ration till all were vaccinated — excepting those who had recently had small-pox, or who had been deeply pitted by an old attack, or who showed well-pronounced marks of recent vaccination. Of the whole number vaccinated, only sixty-four-and-a-half per cent. of the cases were successful; the remainder were either wholly unsuccessful, or developed but small abortive vesicles; although, in the refractory cases, I repeated the operation several times. These failures in vaccination are very common on both the east and west coasts of sub-tropical Africa. Dr. Hussey, of Zanzibar, told me that he had, not long before, used the contents ot six tubes which he had procured from England, from which he had not succeeded in obtaining a single successful vaccination. This has been explained (and I have no doubt correctly), by competent hygienic authorities, as the result of the prevalence of the torrid Harmattan winds; which dry up the lymph before it has time to be absorbed. I tried to make the best of my supply by moistening freely with a mixture of glycerine and water, and am disposed to attribute my comparative success to this treatment. The subsequent effects of the vaccination of these men were very gratifying indeed; for, although exposed to the epidemic of small-pox at Banalya, in 1888 (when Mr. Stanley was returning with the remnant of the rear column), but four cases occurred among all our men, and all of them recovered; while the unvaccinated Manyuema all around them contracted the most virulent forms of the disease, and died in great numbers.

Some accidents also occurred on board the *Madura*—incised wounds, a few fractures, crushed fingers (which required amputation), and one severe case of compression of the brain.

The *Madura* was registered to carry 750 passengers "'tween decks," and this section of the vessel was exclusively reserved for our Zanzibaris, Nubians, and Somalis. Our total number was 803, including Tippu-Tib's party of ninety-eight (thirty-five of whom were ladies of his harem). Tippu-Tib and his followers occupied the foremost part of the ship, and second class; the after part was given to the Europeans and the two interpreters. Tippu-Tib was frequently invited to come aft; and, indeed, he often invited himself and the members of his Staff. One of the latter, his brother-in-law, spoke English very well; had been to London and was intimate with the geography of

Hyde Park, the Marble Arch, &c., &c.: he also was at one time employed as Arabic interpreter to the British Force at Suakim. Another member of the Staff of the "African Bismarck" appeared to function as "Prime Minister." A third was certainly a kind of private chaplain: he was always muttering extracts from the Koran, and perpetually running a string of beads through his fingers, each one of which corresponded to a prayer of definite value. Tippu-Tib himself is a very remarkable individual in every way—of commanding presence, and a wonderful degree of natural ease and grace of manner and action. He stands nearly six feet in height, has brilliant, dark, intelligent eyes, and bears himself with an air of ultra-imperial dignity, without a trace of effort or affectation. He was always dressed in Arab costume, of spotless white. His wives carried his food and baggage. They were all well developed in every way; most were fairly good-looking; necessarily very dirty—as they never washed; and very high-smelling. He must have married all these females for love, as none had any money, and they certainly had very little trousseau.

The leading men of his Staff, although indifferent personages to look at in presence of their chief, were also very graceful and dignified in their demeanour and movements. They were all devout Muslims. I could not help admiring the perfection to which they carried out their practice of dental hygiene. After every meal, and also in the intervals between, each of them carefully cleaned his teeth with a thin piece of wood, of which the end had, while fresh, been teased out into a flexible fibrous brush. The result was as perfect as could be desired. I have referred to the similar custom of the Zanzibaris. The latter prepared a fresh flexible piece of sapling for this purpose, by chewing the end, and then teasing out the fibres.

Disinfectants were very freely used on board, and their employment greatly increased our comfort during the voyage; without them the overcrowding of the blacks, and their want of attention to personal cleanliness, added to their naturally somewhat oppressive odour, would have made the place intolerable.

CHAPTER XXVII.

SUMMARY OF MY PROFESSIONAL AND PERSONAL EXPERIENCES WITH THE RELIEF EXPEDITION.

My experiences from the Congo mouth to Stanley Pool—All of us have suffered some time or another from gastro-intestinal catarrh—Our sick left at Mataddi and Leopoldville—How to render manioc wholesome—Luxuriant forests of the Upper Congo River—Unpleasant times on board the *Henry Reed* while proceeding to Yambuya—Poisoned wooden spikes placed in the ground by the savages—Our march through the dense primeval forest—Camping-grounds and hut construction—Hornets' nests in the forest—Our food-supply on the journey to Lake Albert—Mr. Stanley assists me with valuable advice in the prevention and treatment of fevers—During the forest march we are pestered by parasites, jiggers and ticks—The removal of the arrow-head from Lieutenant Stairs' chest—Amputation of Juma's foot—Great mortality among the sick left at Ugarrowwa's Station—The terrible gangrenous ulcers—Nelson's Starvation Camp—Mr. Stanley presents me with a watch and chain—History of the same—Incident showing the loyalty of our Zanzibaris—Our arrival at Bagamoyo—We are entertained by the local magnates, &c.—Accident to Emin Pasha—He develops broncho-pneumonic symptoms—The Germans interfere with the Pasha's boxes—I am struck down with hæmaturic fever—Dr. Charlesworth's anxiety regarding my condition—My former attack of hæmaturic fever at Fort Bodo—My ill-fated friend Major Barttelot—Mr. J. S. Jameson and Mr. Bonny—Concluding remarks about my three fellow-officers: Jephson, Nelson, Stairs—Our leader, Mr. Stanley—Welcome home—The end.

WE reached the Congo on the 18th of March, 1887, and there—when we were told by everybody that no steamers could be procured to convey us up river, as all those in that part of the world were out of repair, and one of them actually stranded on the beach before us—I had first an opportunity of estimating what our leader could accomplish in overcoming difficulties, when everything seemed to be against him. Details already published need not be repeated here. On the 21st we were at Mataddi, 108 miles up river, when the organization of our expedition was completed. During the seven days which elapsed, from the time we entered the Congo till we left Mataddi, we had five deaths; the work was very severe, and, all performed under a burning sun. Of the fatal cases, one

was pneumonia; two, bronchitis; one, peritonitis (traumatic); and one sunstroke. Fourteen others were invalided here (at Mataddi); they suffered from fever (malarial), pneumonia, bronchitis, and dysentery.

On the way from Mataddi to Stanley Pool, the marching was over an undulating, grassy country, with a few small forests here and there, and intersected by many deep and rapid streams. We had several heavy rainfalls during this period. The men suffered greatly on the march from soreness and tenderness of the feet; some ulcers developed, and they had a good deal of fever—especially after wettings—either by crossing a stream, or being exposed to a drenching tropical shower. The Somalis proved especially vulnerable in this way; their native climate about Aden being very dry and sandy, the change of meteorological conditions was too abrupt and complete.

As the Expedition proceeded across the Dark Continent, I believe every member, both black and white, suffered from attacks of gastro-intestinal catarrh. It was ushered in with moderate fever, violent bilious vomiting, cramps and straining, with copious diarrhœa. The tongue was deeply coated with a dry fur, which in bad cases, became almost quite black. The dejecta were charged with mucus, which was sometimes blood-stained. I had myself a very severe attack of this kind at Leopoldville, as noted in my diary at the corresponding date, and believe that I am in a great measure indebted for my chances of recovery to the kindness of Captain Liebrichts. He accommodated me with a comfortable clay hut to lie in, and sent me regularly a supply of cow's milk, of which I took two tumblersful daily. It constituted my only nourishment during this illness, and I must again pause to thank the benevolent donor for his kindly and opportune gift.

At Mataddi, and at other stations on the way, the invalids were left behind with a supply of food and medicine; and received directions to follow us as soon as they were able to continue their march. Under such circumstances, four Zanzibaris were left with the English missionaries at Palaballa; five with the American missionaries at Banza Manteka; and two at the Lutete mission. One Zanzibari, in going down a steep hill, allowed his box to slip and crush the back of his neck. He complained of stiffness and soreness at the

injured place afterwards, but developed no prominent symptoms till after five days' further marching, when the phenomena of compression of the cervical spinal cord supervened; paralysis of the trunk and limbs below the seat of injury was rapidly developed, and we were obliged to leave him behind in charge of some friendly natives, who were paid for food and nursing.

On the way to Leopoldville, one Somali and one Zanzibari died; another Zanzibari was shot dead by a native, and one more was wounded with some slugs. The Europeans, up to this date, suffered little or nothing from the malaria, as they had been periodically dosed with quinine on board ship, which certainly acted as an effectual prophylactic. Five other Zanzibaris, declared "unfit," were left at (or near) Leopoldville. Accordingly, when leaving this station our loss in men had amounted to fifty-eight:—

Deaths.		Invalids.	
On board the *Madura* .	3	At Mataddi	14
Up to Mataddi . . .	5	„ Leopoldville . .	5
Beyond „ . . .	3	Between above stations	12

Desertions 16

Our supply of rice lasted till we reached Leopoldville. On leaving this station, the food of our men was at once changed to manioc, which was purchased from the natives along the Upper Congo, as they understood barter. A necessary precaution must be adopted in the preparation of this article of diet. To make it wholesome food, the tuber must be soaked in water (frequently changed, or in that of a running stream) till the outer portion has undergone partial decomposition. This has the effect of getting rid of some deleterious principles, which if taken into the stomach, produce serious symptoms. Our Zanzibaris were instructed how to prepare the manioc for food; but with their usual recklessness and want of forethought, they were sometimes too lazy or careless to take any trouble with the tubers, and ate them raw. They always paid dearly for this folly, for they soon developed severe gastric pains, accompanied by vomiting—sometimes extremely violent—and blanching faintness, with other symptoms of prostration; and were almost utterly unfit for work for a couple of days

afterwards owing to a feeling of syncope probably produced by the contained hydrocyanic acid.

The Nubians and Somalis, who had never been accustomed to this kind of diet, suffered greatly in health when suddenly deprived of their accustomed rice food.

The banks of the Congo, up to Bolobo, are in most places very thickly grown with bush, which extends in great luxuriance down even to the water's edge. There are besides, however, large tracks of grass-lands. Beyond Bolobo, there is nothing but forest. On the right bank of the Congo, opposite the junction of the Kassai river, large herds of elephants may be seen wandering about, enjoying the undisturbed quiet of the primeval forest. One group I saw, which contained at least one hundred splendidly developed specimens. The foliage on the river's bank, as we passed up this region, was very dense and luxuriant. The neighbouring lands are very swampy, and abound in an extremely rich undergrowth. Fortunately for our comfort, there were no mosquitoes. The forest foliage is so dense that the sun's rays never reach the ground, and there is always a rank, "confined" odour of decomposing vegetable matter.

There was great crowding on board the *Henry Reed*, on which I travelled most of the way; and I felt thoroughly sick of the journey when I landed at Yambuya, on the 15th of June, 1887. Tippu-Tib and his followers had all travelled in the *Henry Reed*. His women, as already mentioned, never washed; and, accordingly, the odour of their haunts was more pungent than odoriferous. They always lounged and lolled about in the saloon, in a half-sickly, half-lethargic state; but, if at all disturbed, would assert themselves and have their own way in everything. I collected all the heavy baggage (boxes, &c.), which I could obtain, and carefully barricaded off one quarter of the saloon so as to protect myself, as far as possible, from the consequences of too close proximity; but my efforts were not followed by a satisfactory degree of success. These relentless women would shove their legs through, between the boxes, so as to lie at full length; and, sometimes, when a number of them felt the obstruction simultaneously, they would employ their united strength to push down my whole barricade, so that I was obliged to gather myself up into a corner, and even to cry out for mercy. I am not likely soon

to forget the fragrance of these women; or the sight of their numerous limbs protruding through my weak enclosure, exposed as far as the pelvis, and without any superfluous anxiety for the requirements of propriety or decency. I sometimes tried the effect of pricking the aggressive limbs with pins, but their yells and snarling aroused the attention of Tippu-Tib, whose wrath at once descended upon me, so that I was obliged to abandon that mode of self-preservation.

On the way from Leopoldville to Yambuya we had eleven deaths. One of these was from sunstroke, the others from fever or dysentery. Of the eleven men who died: five were Nubians, three Somalis, and three Zanzibaris. When at Yambuya, one of our Nubians, while out foraging, received a spear-wound, which penetrated the abdominal cavity, and soon proved fatal. One of our Syrian interpreters died of a very acute attack of dysentery. Up to this date all the white men had suffered more or less from malarial fever. At Yambuya, Stairs had fever of a typho-malarial type. The principal symptoms were of the usual enteric character, but the temperature range was distinctly that of malarial fever. On the morning we left Yambuya, his temperature was 104° F.; he had to be carried—at first in a hammock, afterwards in a canoe—and he had still some weeks of severe illness before him, but afterwards made an excellent recovery. The men left behind at Yambuya were not the best men of the Expedition; a good many were weakly, and a large proportion had ulcers, but as they had all been strong and healthy, and specially selected before leaving Zanzibar three months previously, I considered that, with rest and plenty of food, they should recuperate, and make as good men as any in the Advance Column.

We were not far from Yambuya on our first march towards the Albert Nyanza, when two of our Zanzibaris were wounded by arrows, shot at them by hostile natives. Next day many of our carriers were very footsore, and several were wounded by "makonga," wooden spikes, which the vicious savages placed obliquely in the ground on the paths leading to their villages. Some of these penetrated the whole thickness of the foot from below, the point appearing on the instep. Sometimes the point broke off short in the foot. Some of these makonga were made long enough to penetrate the abdomen

and break off short within its cavity), or even reach the spine. These longer ones were nearly always found at the end of a log, or fallen tree, along which we were obliged to walk or crawl, and from which we had to jump to the ground. In this position they were fearfully dangerous; and it was very difficult to induce our poor, reckless Zanzibari carriers to take sufficient precaution to avoid the danger. There was always a spiral groove cut near the pointed end, so as to form a shoulder, and allow all the tapering portion beyond to break off easily after penetrating the tissues.

We were now marching through dense primeval forests, in which we often passed several days without a glimpse of the sun, oppressed with the persistent odour of decomposing vegetation; frequently wading through stinking, miasmatic swamps, and stagnant elephant pools; often obliged to strip naked and wade, or swim, across rivers; and afterwards sleep in damp clothes, which we were sometimes unable to dry for several days, as the sun's rays could not reach us. We were frequently obliged to sleep between wet blankets; all the officers had waterproof sheets, which we threw over a few leaves and branches arranged as a mattress. We usually made a fire near the door of the tent; but, when the bush was very thick, and our men exhausted after the march, we were often unable to have a clearing made for the tents; each of which occupied a space of eight feet square, and was tenanted by two officers. Afterwards, we were obliged to cut these tents into two, as they were very inconvenient, and the officers often had to separate when on foraging expeditions, &c. My waterproof coat had been lost by my boy Muftah—on the way up to Leopoldville; and I often felt the want of it bitterly. Only Mr. Stanley and myself brought bedsteads, the others frequently had good reason to lament their absence. On various occasions we were tempted to pitch our tents in the comparatively clear space afforded by a hollow, or the dried-up bed of a shallow stream; and when the tropical rain descended in torrents—sometimes not where we had encamped, but at a considerable distance higher up—a flood would rapidly appear, and fill the whole space which, on the previous afternoon, we had thought so desirable for our encampment. We were frequently inundated in this way, not only with water, but with floating logs, and other rubbish, which were swept down upon us by the torrent.

[redacted]

...a clearing that dryi...
...possible. Very frequently
...got into cam...
...were obliged to lie o...
...of any kind, till

When the men reached camp they ...huts, arranged in a circle around ...the native. The huts were op... ...the backs were made—as close a... ...towards the forest, so as t... ...the unfriendly natives, a... ...animals. They always placed their rifle... ...that they could jump u... ...at a moment's notice. On... ...easily available, so that ...constructing huts of rectangular outline, ...found it convenient to adop... They stuck canes or saplings in the ...close a circle of seven or eight feet in ...at the top, thatched them with grass, and ...swinging stones on the latter, so as to ...blown away by the wind.

One of the most dreaded dangers o... hornet's nest. The stings of these vicio... painful. Their nests are made of eart... hanging a river: whenever such an obje... men always passed the word *doo, doo.*

Our European provisions counted for very little from the time we entered the Congo; we had some rice, which was finished on the 16th of August, 1887; and some ship biscuits, which had been exhausted during the previous month; we had a small quantity of beef tea; also a very little arrowroot, tapioca, sago, and some tea and coffee. The quantities of each of these were so trifling as not to be worth considering. Our food throughout was the same as that of the men; and each officer was with his company wherever it went. Before the times became very bad, we had an occasional goat—one every fourth or fifth day, or so—and there was occasionally a little Indian corn, but the staple articles of diet of the whole Expedition were bananas and manioc, and on these we may be said to have existed for over two years. When we reached the plains we were able to procure meat; and when Mr. Stanley returned from Yambuya (in December, 1888), he brought some extras with him, in the shape of European provisions, saved from the wreck of the rear column.

In the forest, and also on the plains, the whites suffered very much from fever, probably 150 attacks each. I always insisted on our boys boiling the water which we used for drink, but found great difficulty in having my orders carried out. I always found Mr. Stanley very anxious and willing to have my suggestions fully adopted—in the prevention and treatment of fevers, in questions of general sanitation, &c., &c. He constantly gave me valuable advice, derived from his own long experience of African life, and invariably did his best to assist me in carrying out my plans and arrangements. He never, on any occasion, blocked my wish by the interposition of relentless red-tape, the furnishing of useless and bewildering documents, or the intervention of despotic regulations.

During our marches in the forest, at least half a dozen of our men came to me every day to have parasites removed from the nostrils, which clung tenaciously to the mucous membrane. They resembled sheep-ticks in size and shape. I suffered myself from the attacks of these pests, and found them very annoying. They had to be removed with forceps, and were always filled with blood, sucked from the individual whose mucous membrane they had been draining.

We also suffered from the presence of very small crab-like ticks, which usually attached themselves to the skin of the

legs, into which they succeeded in partially burying themselves, so that they were very difficult to remove. We picked them out with the point of a knife, and found it troublesome to dislodge them even in this way.

The ordinary body-louse was a constant attendant on the Expedition, especially during our forest life.

The men frequently got jiggers in their feet, which gave them great annoyance during the early part of their forest march. They disappeared after we had passed Ugarrowwa's settlement.

After July, 1887, food became scarce. The men had a constant repetition of two or three days' deprivation of all food, excepting the leaves, roots, fungi, and forest fruits which they might chance to pick up. Still, even in the most trying days of their starvation, our poor Zanzibaris were always willing to share a half of what they had picked up with their white officers.

My next important professional experience was the arrow-wound which Stairs received at Avisibba, the history of which has been fully detailed in its place. The arrow-head, which broke off when he attempted to remove it with his own hands, made as it was of brittle, seasoned wood, and grooved spirally at a short distance from the point, remained imbedded in the wound for fifteen months. At first I would not make an exploratory incision to expose its position, as I considered such a procedure highly dangerous, and likely to do irremediable mischief, having regard to the seat of the wound. I then lost sight of my patient for some time, and on meeting him again I found that the local uneasiness had diminished, and that there was no serious constitutional disturbance. Accordingly, I felt confident that the foreign body would become encapsuled at the deep part of the wound by the inflammatory thickening, and, with a certain degree of caution in the movements of the trunk, would become less and less dangerous, while the broken end, towards the cutaneous surface, would become gradually loosened by the discharge, and, after some time, easily removable. The event justified my expectations. He suffered wonderfully little inconvenience from the presence of the arrow-head after the first three weeks or so, and his natural pluck and energy were so great, that he would never shirk what he considered to be his duty. He always worked with his Company as if nothing was the matter; he walked over 1000 miles with that arrow-head imbedded in

GROUP OF RELICS.

1. Decoration worn on the Congo, made from teeth and cowries.
2. Silver chain made from dollars by Emin Pasha's people.
3. Iron axe-head made by natives in the forest for felling trees.
4. Indiarubber tube from filter, through which Stanley received his nourishment while sick at Fort Bodo.
5. Buttons and necklace made from shells found on the shore of Albert Nyanza, used by Emin Pasha's people.
6. The first copper we met with, found at Mugwye's village, July 31st, 1887.
7. Knives made by Dwarfs for peeling bananas.
8. Five ivory hair-pins used by women in Emin Pasha's province.
9. Decoration made by Gordon for his faithfuls at Khartoum.
10. Six iron arrow-heads removed from Nubian, Christmas, 1888.
11. Gordon's paper money issued by him during siege of Khartoum.
12. Piece of *Times* which was wrapped round Emin's first letter, *vide* p. 216.
13. Remington ammunition used by Emin Pasha's soldiers against the Mahdi's forces.
14. Fibre bangles used by the Dwarfs.
15. Ivory bangle, a parting souvenir from a grateful Pigmy, *vide* page 464.
16. My compass.
17. Emin Pasha's letter received since I arrived home from Africa.
18. Flint to light a fire, &c.

GROUP OF RELICS. 18

his tissues, and in contact with the naked rib and pleura, including the memorable (and gloomy) march to and from Ugarrowwa's camp. I had preserved my last dose of chloroform, with the intention of utilising it at a convenient season for the operation of extraction; but it was not necessary when a quiet time occurred at Fort Bodo, as the arrow-head had become sufficiently loosened by the discharge to allow its removal without the use of an anæsthetic. All the others who were wounded at the same engagement died. I am happy to say that my dear friend is as well as if nothing of the kind had happened to him. I may mention that, in grateful recognition of the small attention I paid him, Stairs, after his return, brought his case under the notice of the military authorities by writing to them a full account of its history. The other victims of the poisoned arrow-wounds all sank with tetanic symptoms, which I was at first disposed to regard as traumatic; but, as I afterwards learned by increased experience, were merely symptomatic of the action of the poison.

Another important case I had to treat was that of Juma, whose bullet-wound (and amputation of foot that followed) have been described under its date—27th August, 1887. This man, being unable to march with the rest, was left behind at Ugarrowwa's, and having afterwards recovered health and strength, arrived at Zanzibar months before I did, and was one of a number of grateful patients who came to meet me when I was brought there in December, 1889; invalided by hæmaturic fever, which was contracted while nursing Emin Pasha after his accident at Bagamoyo.

When we reached the camp at Ugarrowwa's Station on the 17th of September, 1887, all our Somalis were reduced to living skeletons, whose bones were held together by skin and ligament —a deplorable sight to see. As these, and a good many of the Zanzibaris and Nubians, were totally helpless; and as we were unable to drag them along with us on the march, Mr. Stanley made arrangements with Ugarrowwa's people to retain fifty-six of the worst cases at their camp; to give them a chance, by rest and better food, of recovering some of their lost strength. Many of these poor creatures had no defined disease, but were simply exhausted by the effects of starvation and exposure. Some had ulcers; some had cardiac affections; a greater number had pulmonary disease; and a

few were wasted by chronic dysentery. Of these fifty-six men, but twenty were found alive when relieved six months afterwards. All the Somalis had succumbed, and only fourteen of the whole number reached Fort Bodo with Stairs.

As we pursued our course after leaving Ugarrowwa's, the principal medical feature of the Expedition was the terrible increase of the dreadful gangrenous ulcers, especially of the feet and legs, to whose existence I have so often had occasion to refer. Their increase, in number and virulence, was in direct proportion to the privation which our men had to undergo.

One of the most harrowing scenes I can ever expect to see in this world was our taking leave of Nelson as we moved off from his starvation camp; a still more dreadful shock, if possible, was given me twenty-eight days afterwards, when I saw his wasted figure tottering into the Manyuema camp at Ipoto. The feelings which prevailed in our breasts when he and I were left behind there in the hands of those cannibal thieves I would rather not recall. They are not, however likely to be forgotten by either of us.

When Mr. Stanley was leaving Ipoto, *en route* for the Albert Nyanza, he left with me for Ismailia, the Manyuema chief, his gold watch and chain as a pledge to pay for the services of guides, who were to lead him out of the Manyuema territory; as he had then no shells, beads, brass rods, cloth, or other form of African current money, wherewith to conclude the bargain. When he returned to Ipoto, on his way to Yambuya to bring up the rear column (20th June, 1888), eight months after, he redeemed this watch from the Manyuema demons. When we had all returned to England Mr. Stanley presented me with the watch and chain, the former bearing the following inscription:—

TO
SURGEON T. H. PARKE
AS A SOUVENIR OF
FORT BODO AND IPOTO,
1887 AND 1888,
FROM HIS FRIEND
HENRY M. STANLEY.

The date of the receipt of this gift marks one of the brightest hours of my life. There is no present which I could have valued more, or

could have felt more gratified by receiving. I always wear this watch and chain now.

On the occasion of leaving Ipoto, with the relief party under Stairs, an incident occurred which showed forcibly the loyalty of our Zanzibaris. Seven of the poor creatures were absent at the time of Stairs' arrival; they were searching through the forest for leaves and insects, to help them to prolong their wretched existence. They did not return; and as nobody knew what had become of them, we were obliged to go without them. When they returned to the Manyuema camp and found that we had gone, they immediately started after us, and dragged their weakly limbs, as best they could, through a very hostile country, till they reached Fort Bodo on the 3rd of March. They had but one rifle among them; and they were in a dreadful state of debility, as it took them a full year afterwards to recover health and strength. I consider that this march indicated all the elements of true heroism and pluck, as well as extreme loyalty to their white leaders. Muftah, my gun-bearer, was one of their number.

Having crossed the African continent from west to east, we arrived at Bagamoyo on the 4th of December, 1889. The sight of the broad expanse of ocean called forth shrieks of joy from our impulsive Zanzibaris, which proved sufficiently infectious to be taken up even by the stolid, lazy, good-for-nothing Egyptians. My own eyes were not in good enough condition to enjoy the sight so much as I could have wished, but I felt, perhaps, nearly as much as any. The bitterness of death was past, our slow and weary pilgrimage had drawn to a close!

The local magnates, vice-consuls, &c. (English, Germans, and Italians), welcomed us, and the Germans entertained us in the evening; with the object of doing honour to the long-lost Pasha and the hero of his rescue. A brilliant congratulatory speech was made by Major Wissman, to which Mr. Stanley replied; and Emin Pasha expressed his grateful appreciation of what had been done for him by Mr. Stanley and ourselves, as the representatives of British philanthropy, in an eloquent and highly-finished discourse. All went merry as a marriage bell. After this speech he walked round to the back of my chair, full of spirits, spoke something in my ear, and strolled,

evidently in an absent and contemplative mood, through a doorway towards the window of an adjoining room.

He had occupied one-storey dwellings only, for a period of fourteen years: it was not a time for sudden inquiry, or suspicion of novelty; and, being excessively short-sighted, he simply walked through and was precipitated to the ground, a distance of about eighteen or twenty feet. He was at once conveyed to the German Hospital, where Dr. Brehme and myself attended to him. The fall produced immediate unconsciousness. A couple of his ribs were fractured. His eyes were bruised, and the lids very much swollen, as he had fallen partly on his face; and there was extensive subconjunctival, as well as subcutaneous, ecchymosis. Blood oozed from both ears; so that, although I would fain think otherwise, there was much to say in favour of the diagnosis of extensive fracture of the base of the skull. He remained perfectly comatose for a time of nearly five hours, and the first word which he uttered, on partial recovery of the power of articulation, was "Parke." I was, naturally, a good deal affected by this indication of the impression I had made on my poor patient's feelings, and felt myself bound to him by a new tie of friendship.

On the next day (Dec. 5) he was conscious, and able to complain of much soreness, all over the greater part of the trunk and limbs, from the contusions which he had received in his fall. So he could not attempt to make any voluntary effort. The oozing, now of rather serous character, continued from both ears. I collected a little of the fluid, and found, on testing with silver nitrate, that it was rich in chlorides.

There was a great deal of swelling, and subcutaneous ecchymosis, of the eyelids and surrounding parts of the face; so much so that examination of the eyes was difficult, and not very satisfactory. The pupils did not, however, display any marked inequality; and they responded to light, although with sluggish movement.

On the 6th he was still better, and appeared perfectly conscious; still the thin, blood-stained fluid continued to ooze from both ears. I kept him perfectly quiet, and applied cold lotions continuously to the bruised parts of the head and face.

Next day (Dec. 7th) he rapidly developed broncho-pneu-

monic symptoms, which prostrated him very quickly. He now required very careful nursing. The temperature went up; and there were the usual accompaniments of rapid respiration, quickened pulse, furred tongue, dry skin, &c., &c. On the 8th, he complained of distress in breathing, and great restlessness.

On the 9th, he still continued dangerously ill; and his symptoms were aggravated on hearing that his boxes had been opened, and their contents explored. It was distressing to see his agitation when he was told of the liberty which had been taken with his things; and he said bitterly, "Did they think I was going to die?" He requested me to collect his boxes—five in number—and his other loads, of which there were a few more; and bring them to him, and have them placed under his bed. Accordingly, I applied for them to the commandant, Captain Richalman, who handed them over to me, with their keys. The poor Pasha seemed furious at the idea of the Germans having opened his boxes, without having thought it necessary to trouble themselves about obtaining his leave, or speaking to me on the subject —which, he said, would have satisfied him, as I had been his companion on the march. I never heard from the Pasha if anything was abstracted from them.

I gave Herr Schmidt a letter for Mr. Stanley, who was now at Zanzibar; having left Bagamoyo on the 6th, with the entire Expedition, excepting about twenty people: these were the Pasha's own servants, their wives and families, the Pasha's daughter Ferida, and her nurse (the wife of the engineer, Mohammed Effendi), who was most attentive to her sick master. Two German nurses, "Auguste" and "Helene," belonging to the hospital were unremitting in their kind attention.

The night of the 10th was a bad and restless one, but the Pasha was, on the whole, a little better. On the 11th, this improvement continued; but, curiously enough, the blood-stained discharge from the ears still continued to flow copiously. It did not disappear till about the twentieth day after the original injury. However, the Pasha developed no other serious complication after this date, but improved gradually. Dr. Brehme looked after him with me, and Dr. Latsche, of the German Navy, also gave his opinion.

After three weeks attendance on Emin Pasha, I was myself

suddenly struck down with an attack of malarial (hæmaturic) fever, which rapidly assumed an extremely malignant type. I was conveyed to the French Hospital at Zanzibar, where I was placed under the care of my kind friend, Dr. Charlesworth, to whose skill and attention, together with that of the French nursing sisters, Antoine and the Reverend Mother Superior—clever, bright, and cheery as they were throughout the whole course of my illness—I feel that, so far as human skill can avail, I owe my present existence among mortals.

Dr. Charlesworth completely lost all hopes of my recovery, and on one night, when I was at the worst, he summoned Mr. Stanley, and my brother officers of the Expedition, to see me breathe my last. Prostrate as I was, I was conscious of their presence; and I have a vivid recollection of Mr. Stanley's going over to the window and opening it, after he had been in the room for a couple of minutes. He is always ready to make a suggestion, and I felt deeply grateful for his action on that occasion, although I was too weak and apathetic to have any feelings on the subject before it was done. I was far too much prostrated by this attack to make any attempt to analyse or to record the course of my own symptoms. My clearest remembrances on the subject are connected with the fact that, during this illness, I practically lived upon iced champagne; and my sense of taste was never so completely benumbed as to prevent me from appreciating it. After three long years of indulgence in the sipping of stagnant, fetid, tepid, typho-malarial African water, the promotion to the enjoyment of such nectar as this was almost worth the illness which confined me to its use. To the leader of our Expedition, and to my brother officers, I owe a life-long debt of gratitude for their kind attention and assiduous care during my worst hours of sickness. To Sir Ch. Euan-Smith, K.C.B., and Lady Euan-Smith, I also feel that I can never return sufficient thanks for the kindness which I received at their hands.

When my leader and companions were leaving Zanzibar for Cairo, I would not be left behind; so that, as I was quite unable to stand, I was carried from the hospital to the steamer by a detachment of blue-jackets, who were kindly detailed for that purpose by Captain Brackenbury, R.N., in charge of Surgeon Beatty, R.N. I was still very poorly, indeed; and

never slept more than about one hour or so each night till I arrived at Cairo, on the 16th of January, 1890.

When I was parting with Emin Pasha, he said that he would certainly follow in the next steamer (about a week later) to Cairo; and I feel quite convinced that he then intended to do so. He was quite well able to travel; and I feel certain that if I had not sickened at the time he would have come with us then. He was anxious to have the cataracts removed from his eyes, as his left eye was almost blind; and it was quite arranged that I was to assist at the operation. But all that was changed, and I have had but one letter from him since.

During my stay at Cairo, rest, good food, good air, the absence of any pressing anxieties, and the presence of very many kind friends and acquaintances assisted in my gradual return to strength.

This attack (of hæmaturic fever) is the only one of really deadly nature which I have suffered during my comparatively prolonged experience of African life. My senses were so benumbed—as is usually the case in fevers of a very malignant type—that I did not feel very acutely any of my own symptoms at the time, and, accordingly, my personal recollections of them are by no means vividly impressed on my memory. It must, however, be recognised as one of the most formidable of the enemies which the traveller may be called upon to encounter when he dives into the depths of the Dark Continent. Still, when occurring in a person whose physique has not already been lowered very much by prolonged exposure and hardships, and who has been guarded by the usual remedies employed in the prophylaxis of malaria, I have no reason to think that the prognosis must be regarded as by any means so grave. The sad history of the collateral circumstances explains only too clearly how it was that my poor friend Jameson was so well prepared to fall a victim to its attack. In my own case, the history of our expedition, and the fact that our stock of quinine had fallen short in the latter months, sufficiently explain how it was that the disease found me in so vulnerable a condition.

In my former attack of hæmaturic fever (at Fort Bodo) there was, in addition to the high fever, with comparatively slight intermissions, hepatic tenderness and enlargement,

copious and long-repeated vomiting of viscid, bile-stained fluid, very pronounced jaundice, and a large proportion of both blood and bile in the renal secretion. In the second, and more severe, attack (at Zanzibar), all the above-named symptoms were present in a still more accentuated form, with the single exception of the presence of the characteristic biliary constituents in the renal secretion. This occurrence of jaundice, with yellow vomit and bile-stained evacuations, but *without icteric renal secretion*, has also been recorded by other observers, and its explanation has given rise to a good deal of discussion among scientific pathologists. It is undoubtedly rare to find an excess of bile discharged by the alimentary canal and jaundicing of the tissues existing at the same time, without the appearance of a corresponding proportion of bile-pigment from the kidneys. The staining of the tissues cannot in such cases be explained in the same way as that occurring in all the more usual varieties of jaundice—with or without obstruction—whether, with Budd and Harley, we admit the pre-existence of the bile-pigment in the blood, from which it is merely separated by the liver; or, with Frerichs and Lehmann, totally deny this assumption. Accordingly, I am disposed to accept—as the only reasonable way of accounting for this remarkable pathological anomaly—the suggestion offered by Surgeon-Major Firth, Army Medical Staff, that the discolouration of the tissues in such cases is due to alteration of disintegrated blood-pigment, and therefore comparable to the well-known staining which occurs during the absorption of extravasated blood from an ordinary bruise. A special organism has been described by Marchiafava and Celli in the blood of malarial patients, which resides during its embryological stage in the red blood-corpuscles, the structure of which it gradually destroys; setting free the colouring matter (hæmoglobin) in the form of minute, dark, pigment granules, which are then found floating about in the plasma, or are swallowed up by the colourless corpuscles (leucocytes). These granules easily escape through the capillary walls—either with the plasma itself, or imbedded in the leucocytes—in the ordinary process of diapedesis. Their subsequent chemical changes satisfactorily account for the discolouration of the various tissues which takes place in those extreme cases where an enormous amount of the organisms in question may be

supposed to be present in the circulation. This hypothesis also accounts for the hæmatinuria (or hæmoglobinuria), and is the only one I know of which will reconcile all the phenomena.

From the date of reaching Cairo, the only thing which tended to retard my convalescence was the over-pressure of the more than cordial hospitality which we received there. We were welcomed by representatives of every civilised nation, and our leader and his officers were all made to feel that our long exile in the depths of Africa had by no means caused us to be forgotten by those whose sympathies were best worth preserving.

And now my long-drawn narrative narrows to its close. I have given, in a plain, unvarnished tale, the principal impressions made upon me, at their respective dates, by what I saw, heard, and felt during the quest and rescue of the lost governor of the Equatorial province. I hope, with some degree of confidence, that the record so given will help to demonstrate to the impartial critic that, taking into account the privations and hardships to which we were subjected, there were as few lapses from duty during the conduct of the Emin Pasha Relief Expedition as have occurred in that of any other historic task of corresponding difficulty and magnitude. Of my leader and brother officers I retain no recollections but the warmest ones of kindliness and gratitude. My ill-fated friend Major Barttelot, who was the direct agent of my introduction to the Expedition, was one of my brightest and pleasantest companions during the early months of its course. Although possessed of a rather ungovernable temper, he was always a very jolly comrade, when not depressed or irritated by the effects of sickness or worry; and the only thing which tended to neutralise his usefulness in the post assigned to him by Mr. Stanley was his pronounced antipathy to the black man. Had he been more fortunate in his choice, and not joined our Expedition, his energy and undoubted bravery would probably have secured for him a brilliant soldierly career. The only other white officer who lost his life on the Expedition, Mr. Jameson, was always quiet, most gentle, cheerful, and amiable to a degree. He was continually referring in the most affectionate terms to his home ties, and saying to each of us what a pleasant time we would have in his villa on the

Thames, when the trials and troubles of the rescue of Emin Pasha were all well over. I entirely disbelieve that James Sligo Jameson was capable of any act of deliberate cruelty. Although his own letter is compromising, yet its candour is significant. It is a maxim to speak only well of the dead, and to leave untouched all that is unpleasant concerning them; but of Jameson I never knew but good.

[Extract from an official Report of the Commandant of Bangala, received at Head Quarters, Brussels.

The date of Mr. Jameson's death is August 17, 1888. Mr. Jameson had arrived in a canoe on the 16th of August, in a state of complete exhaustion. According to his men he suffered for eight days from a hæmorrhagic fever and had taken neither food nor medicine since leaving the Lumami River. On his arrival Jameson's condition only became worse, and he died without having been able to make known the motive which induced him to descend the Congo.

It appears from the researches made by Mr. Ward among the papers of the deceased, that the Expedition could only be resumed under an Arab chief, to lead the Manyuema: that there were only three men capable of fulfilling this task, viz., Raschid, The son of Tippu Tib, and Tippu Tib himself. The first would not undertake it, the second was absent, and Tippu Tib demanded £20,000 without any guarantee, and not including the salary of the men. Mr. Jameson had personally guaranteed this sum, and went to Bangala to seek Mr. Ward and the remaining despatches.

The letter from the Resident at Stanley Falls says that the motive of Mr. Jameson's descent was to learn the contents of the despatches of the Emin Pasha Relief Expedition, of which Mr. Ward, who remained by order at Bangala, was the bearer.

The papers and effects of Mr. Jameson have been sealed and an inventory made by Mr. Ward under the supervision of Mr. Dhamis, to be forwarded to Mr. Mackinnon.]

Of the other officers connected with the ill-fated Rear Column at Yambuya, I have never yet seen Mr. Rose Troup, and Mr. Ward I saw once only, and for a very few minutes, at Mswata, near Stanley Pool. Mr. Bonny, who afterwards joined us at Fort Bodo, must have had an extremely difficult time of it at Banalya; where he was the only European officer left, and

placed under the most trying circumstances. He certainly did very good work for the Expedition, by waiting and keeping the remnant of the Rear Column together until Mr. Stanley's timely arrival; when only seventy-seven living skeletons remained out of 176 Zanzibaris, Nubians, and Somalis; and one European out of five. Mr. Walker and Mr. Ingram were only required on the Congo.

When I come to the names of those men with whom I have been more intimately associated—for a longer time and through darker trials—I may, I hope, be pardoned if, in bidding them farewell, my feelings tend to bubble over a little. Of the three officers of the Expedition who, besides myself, followed our leader through thick and thin across the African Continent from the start: Mr. Arthur Mounteney Jephson, Captain Robert Henry Nelson, and Lieutenant William Grant Stairs,* the former was long separated from his fellow-officers, and has already told the story of his experiences in the Province of Equatoria, in a way which has enlisted the sympathies of the English-speaking world. He was known to his brother officers as a genial companion; and, in the performance of his duties, energetic and thorough to the last degree. I have often seen Jephson do a day's march, entailing heavy work and a great deal of worry, while his temperature during the whole time ranged between 105° and 106° F. Nelson, whose trials and experiences were most intimately associated with my own, suffered far more than any of us. His being incapacitated by ulcers and debility led to his being left behind in the horrible "Starvation Camp," the mention of whose name will probably always send a thrill through each surviving officer of the Advance Column of the Emin Pasha Relief Expedition. His sufferings at Ipoto, while he had not a bony prominence, on which he could sit or lie, that was not occupied by a bed-sore, would bear comparison, I think, with those of many famous martyrs; and were certainly borne with a degree of moral strength and heroic fortitude which I never expect to see surpassed. Stairs was always a great favourite with his men; he was very determined in action, but prudent and cautious—beyond his years; a true and kind-hearted friend, whose memory will always be dear to those who worked with him in the dark

* Now Captain.

hours of trouble. He did a great deal of laborious and anxious work during the fifteen months in which he carried nearly two inches of arrow-head imbedded in his chest-wall. He remained, however, fairly strong all through, except in his febrile attacks, which were numerous and rather severe. And, having thus dropped a few concluding remarks about each of my fellow-workers, I have only, in saying to one and all a long good-bye, to add the heartfelt wish that the paths of life of each, however widely divergent from one another and from mine, may be strewn with the rewards which we hope should accompany the thorough performance of all honourable duty; and that distance, of space or time, will never alter the opinions and feelings which we have hitherto held of, and towards, one another.

In saying farewell to the leader whose sagacious forethought and unflinching determination carried us through a series of difficulties which, I believe, no other living man would have been able to battle with so successfully, feelings of a still more varied character are, necessarily, called into existence. The diverging criticisms of his personality and of his leadership, to which the public have been so unstintingly treated, make an estimate of Mr. Stanley a very bewildering task without the opportunity of a long personal experience. His terribly direct way of saying what he means usually grates at first on the feelings of people who have been chiefly accustomed to the polite society of drawing-rooms. The fact that he never gives unqualified praise, and that he frequently commanded almost impossible tasks, the performance of which had to be undertaken at a moment's notice, often made his officers regard him as a hard taskmaster. Yet the longer we worked with him, the more we liked him; and no code of government regulations or of army discipline could have made both officers and men treat a leader with greater respect and confidence than those which were felt by all of us towards Henry M. Stanley. When difficulties and hardships came thick and fast upon us and around us, there was something approaching the sublime in the strength with which the iron will of our leader enabled him to oppose, and in the readiness of resource with which he was so frequently able to overcome, or elude them. Personally, I often, in the earlier months of our march, thought him unsympathetically reticent, or unreasonably

suspicious; yet there was not a single fault which I was disposed to find of which I did not afterwards see ample reason to modify my opinion; or which did not seem to be useful, or even necessary, in the management of the Expedition which he had undertaken to lead under such self-sacrificing conditions. To say that he was ever needlessly cruel or tyrannical is absolutely untrue: the beatings inflicted on the carriers which have furnished so much material for comment to the Aborigines' Protection Society, and other bodies of equal experience, were only such as were absolutely necessary to maintain the discipline on which the very existence of the Expedition, and of its officers, depended. The impulsive Zanzibaris, on feeling tired, have a terrible *penchant* for desertion, taking their rifles with them, especially if in a neighbourhood from which there is any chance of escaping home; and the rigid discipline which Mr. Stanley maintained during the earlier part of our march across the continent was the only safeguard which protected the Expedition from total wreck, and saved the white officers from leaving their bones bleaching under the African sun. As Wellington truly said, "Punishment is cruel—nothing so inhuman as impunity." The best evidence of our confidence is, I think, the fact that he is the one man whom his former officers would again follow in such an Expedition; and he certainly is the only living person whom, after our previous experience, we should elect to lead us. To say that Mr. Stanley has any natural inclination to treat the native African cruelly is as far from the truth as any statement that could well be made; on the contrary, he was always inclined to favour the black man in preference to the white. Even when lying on the brink of the grave at Fort Bodo—and I have never seen anyone recover who was nearer death—his courage never failed; and the small incident of his carrying the five bottles of champagne all the way to the Albert Nyanza to drink Emin Pasha's health—without letting any one know of their existence but himself, although the use of them for his own case might have been the means of rescuing him from the jaws of death—forms, I think, as good an index to the character of our chief as anything in his history with which I have become acquainted. We all felt that with Mr. Stanley's qualities the success which has attended his remarkable career in life was reduced to a necessity; and the

closing wish of this volume, which records my experiences of him as a leader, is that he may live long and happily to enjoy and increase it.

I have finished my story.

We left in high spirits for the homeward journey, in which we passed through Italy and France to receive the more than princely hospitality of Their Majesties the King and Queen of the Belgians, and the truly cordial welcome of the whole Belgian nation. Starting from Cairo on the 7th April, 1890, Mr. Stanley and myself (Nelson, Stairs, and Jephson having left before us on the return voyage) proceeded to Alexandria, and embarked for Brindisi on the evening of the same day. A large and enthusiastic crowd awaited to bid us "God speed," and to cheer us as we passed along: nature smiled on us through a clear and perfectly calm atmosphere; and we waved, as we moved away from land, a farewell salute to the shores of the continent, from the unexplored interior of which each one of us had, I believe, at some period of the Expedition, lost all hope of returning.

"The work is over, the sojourn done.
Fare thee well, thou land of the Sun!"

FINIS.

INDEX.

Abdullah, Chief, 364.
Abdul Wahud Effendi, 418, 453.
Abed Bin Salim, ivory hunter, 104, 124, 155.
Aborigines' Protection Society, 268, 513.
Abu Klea, machine guns at, 359, 360.
Accidents; to one of Tippu Tib's men, 25–27, 33; crushed finger, 27; hatchet wounds, 35, 64.
Achmet Bin Sulieman, 436.
Aden, 11–13; the Somalis and, 40, 59.
Advance, the steel-boat, 37, 43, 58, 69, 75, 76, 78, 87, 103, 107, 113, 116, 117, 119–121, 126, 127, 134, 140, 192–194, 197, 210, 217, 218, 223.
Aerobic microbes, 171, 172.
Africa, fever in, 355–357, 366. See also *Malarial fever*.
A.I.A., s.s., 363.
Albuquerque, s.s., 31.
Albert Edward Nyanza, 439–448, 455.
Albert Nyanza, Lake, 197; start for, 207; Emin on, 213, 214; crocodiles in, 218; 220, 221; the Zanzibaris and, 253; third march to, 337–347; 425, 432; water of, 441.
Aldershot, sunstroke at, 33.
Alexander (interpreter), 68.
Alexandria, vii, ix, 2–8.
Alexandria Nile, 457, 460, 461.
Ali Bin Said, 354, 355, 447.
Ali Effendi, 421, 423, 424.
Ali Nyadi, 436.
Altamont, Perim Island, 11.
Amani, boy, 237, 238.
Amœba, the, 165–166, 231.
Amputation of Mohammed Doud's finger, 10–11; Juma's foot, 100–101, 501.
Amur, Sheban Bin, 253.
Anäerobic microbes, 171.
Ango-Ango, 32.
Animalculæ, see *Microbes*.
Animal life, bacteria and, 175–176.
Ankori, county of, 448–460.
Antari, King, 449–451, 457–459.
Antidotes for arrow poison, 307, 313–315, 319.
Ants, an army of, 78, 98, 99, 155–156; pounded as food, 155, 156, 254, 324; column of, 187; at Fort Bodo, 254, 272, 279, 366, 367.
Arabs and powerful odours, 137.
Arms; spears and shields, Upper Congo, 57, 63; weapons of the Balegga, 219; knife, 119; tower muskets, 425, 451, 452; arrows in Toro district, 447. See also *Arrows*.
Arnold's "Light of Asia," 151.
Arrows, poisoned, 73, 96, 97; at Avisibba, 90–94; iron, 210–211, 219, 228, 237; Baluzi and, 248–249; found near Fort Bodo, 251, 252, 281, 321, 339–343; 390, 391, 433, 496; extraction of arrow-head from Lieut. Stairs, 287, 292–297, 500, 501; preparation of, 300–307; paper on, 308–319.
Aruwimi River, 63, 64; at Yambuya, 69; we follow the, 76–116; and Nepoko, 100; and Ituri, 116–117; fish baskets of, 326.
Ascaris lumbricoïdes, 271, 273.
Asmani (Zanzibari), 120, 267.
Assad Farran (interpreter), 39, 361.
Atoso camp, 434.
Avisibba, fight at, 90–94; poisoned arrows at, 301, 313; Stairs' wound at, 500–501.
Awash Effendi, 418.

Bacillus anthracis, the, 164.
Bacillus, microbes, 167, 169, 172, 174.

Cattle, 216, 217, 371, 372, 377, 390, 441, 443, 456.
Cemetery at Banana Point, 31.
Cereals, 486.
Cerebral disease, 59.
Charlesworth, Dr., 506.
Chikwanga, native bread, 46, 75.
Chills, nocturnal, in Africa, 349–350, 453, 457; at Ankori, 477.
Cholera in Egypt, viii, 356–357.
Cigarettes, General Gordon and, 390, 391.
Circumcision; in Africa, 257; Monbuttu tribe and, 400–401.
Clarke, Mr. and Mrs., 34.
Cloth, made of grass, by Manyuema, 157, 220; cotton cloth, made by Emin's people, 228; in Ankori, 451.
Coccus microbes, 167, 169.
Coffee, 459.
Cohn and microbes, 164.
Condiment, made of pounded ants, 155, 156, 254, 324.
Congo-la-Lemba, 35.
Congo river, 31; banks of, 32; first cataract of, 43–44; and Kwa river, 51; at Bolobo, 54; vegetation on banks of, 55; junction with Aruwimi, 63; tributary of, 56; natives on the, and transmission of voice, 212; Lower —, charm doctor in, 221; fish baskets of, 326; waters of, 386; 492–496.
Congo Free State, 395; officials, 32, 34, 44.
Conjunctivitis, 280.
Constantinople, Emin at, 382.
Contract of engagement for E.P.R. Expedition, 6, 11.
Cooking-pots on Aruwimi River, 78.
Corn supply at Ipoto, 124–128, 140, 158, 186, 196; at Fort Bodo, 238, 247, 255, 257, 263, 278, 290–292, 298–302, 329, 332, 371, 486.
Crabs, 300.
Cricket match at Suez, 9.
Crudeli, T., and bacillus, 231.
Current waters, 384–387.
Customs of Natives, Upper Congo, 55.

Dancing in Africa, 234, 235; by Mazamboni's men, 370; by Wahuma women, 406.
Davaine, and microbes, 164.
Deakes, Mr. 474–476.
Dean, Mohammed (Nubian) 353.
Deane, engineer, 31, and Stanley Falls Station, 67–68.
Dessauer Mr., 39.
Diarrhœa, 40; microbes and, 163, 378.
Disease, causation of, 161–179, 231.
Disinfectants on board s.s. *Madura*, 491.
Doctor, a Manyuema, 187.
Dogs, of the forest natives, 297; Stairs', 303–307; of Wahuma tribe, 375.
Donkeys, our, 36, 39, 41, 76, 77, 81, 85, 101, 107, 118, 122, 134, 136, 139, 142, 186, 192, 280, 282, 409.
Draughts, Zanzibaris and game of, 327.
Dress of women, Upper Congo, 57, 61; of Manyuema women, 344; of Wahuma, 397.
Drink, sunstroke and, 456.
Drums on Aruwimi River, 78.
Durban, 23.
Dwarfs, method of marking distance, 119; and game nets, 149, 251; measurements of, 399; habits of, 397–399, 402. See also *Washenzi*.
Dysentery, cases of, 24, 27, 29, 54, 68, 86, 89, 98, 355, 358, 489, 496.
Dyspnœa, 248, 250.

Edgington & Co., 340.
Edwin-Arnold, Mount, 451.
Egypt, cholera in, viii, 356, 357; the Nile Expedition, viii, ix.
Elephantiasis, disease of, 58.
Elephant trap, 398. See also *Zoology*.
Emin Pasha, or "Malleju," 2; Mr. Stanley's plans *re* relief of, 66; no news of, 191; letter, 215, 216; arrival of, at our camp, 223–233; house for, at Fort Bodo, 277, 284; delay of, 347; letters from, 369, 370; ——'s daughter, see *Ferida*; at Kavalli, 377–408; and General Gordon, 390, 391; illness of, 397, 446, 451, 453, 458; weight of, 396; and measurement of pigmies, 398–399; Stanley and, 402–405, 439; people, 406; and the sick, 415, 416; accident at Bagamoyo, 503–506.
Emin Pasha Relief Expedition, contract of engagement for, 6, 11; strength of, 19; "General Orders" for members of, 20, 21; advance

guard of, 71; goods of — left at Yambuya with Major Bartellot, 244, 245; European provisions taken from Yambuya, 269–270; ages of officers and men, 302; weapons of, 360; tents of, 340, 341.
En Avant, s.s., 58.
Encephalitis, 27, 33.
Entomology: Butterflies, Upper Congo, 62.
Entozoa (worms), 224, 225, 271. See also *Guinea worm*.
Equator Station, 56.
Erysipelas, 184, 193.
Ethnological curios on the Aruwimi banks, 78.
Exhaustion, deaths from, 57.

Fadel (Nubian), 268.
Farigi, Khamis, 264.
Farming operations at Fort Bodo, 319, 321.
Farragalah (boy), 435.
Fathel Mohammed, 58.
Fathel Mullah, 391, 469.
Fathel Wadi Hadi, 252.
Faught, Surgeon-Gen., 26.
Features of natives, near Yambuya, 82.
Femoral artery, man wounded through, 80, 81.
Ferida, Emin's daughter, 374, 378; Mohammed Effendi's wife and, 399–400, 505.
Ferns, forest of tree, 220.
Ferragi (Zanzibari), 280.
Feruzi Ali, 88, 119–121, 488.
Fetteh, interpreter, 210, 211, 213, 236 237, 267. 370.
Fever, cases of, 52, 64, 76, 198, 205, 207, 220, 225, 230, 238, 249, 255, 263, 268, 274, 280, 282, 283, 321, 329, 352, 354, 365, 378, 379, 382, 391, 401, 414, 445–448, 450–453, 458, 460, 461, 476, 482, 499, 506–508.
Firth, Surgeon-Major, 508.
Fish, mode of catching in Aruwimi, 101; Stairs and, 118; phosphorescence of, 179: at Fort Bodo, 257, 270, 271, 285, 289, 291, 325, 326, 368, 467, 486.
Florida, s.s., 67.
Flying Fish, the, 15.
Forests of the Lower Congo, 36; the Great Central African, from Yambuya to Avisibba, 73–96; eff traversing, 101; an utter w ness, 114–115; a clearing, 192, 248; end of, 194, gymnastics in, 209; native and transmission of voice, 212; fruit and beans, 486; 503.
Fort Bodo, 191, 195–198, 203, 238–239, 243, 249; life at, 337; farming at, 319, position of, 329; Stanley a at, 334–337.
Foxes in Egypt, 3.
France and Perim Island, 11.
Francqui, M., 39.
French mission at Kwamouth, at Bukombi, 474, 475; in A 482.
Fruits in forest, 118, 122, 486.
Fundi Said, 457.

Game pits in the forest, 75, 94, 398; net near Fort Bodo, 397.
Gastro-intestinal catarrh, 54, 88, 355–357, 493.
Gavira, Chief, see *Mpinga*.
Gemmation of bacterium, 173.
Geologists and Aden, 13.
Germany and Bagamoyo, 475, 4
Giglier Pasha, 8, 9.
Glave, Mr., 56.
Goats, 87, 88, 93, 105, 131, 155, 158, 189, 193, 196, 343.
Golgi and microbes, 231.
Gordon, General, relief of, vii 120, 212, 290, 360, 365; E and, 390, 391, 456.
Grant, 465, 466.
Grape, the, microbes and, 171.
Grass fire, near Upoto, 62.
—— cloth made by Manyu 157, 220.
Guardafui Cape, 14.
Guinea worms, 241, 242, 271, 330, 331.
Gymnastics in the forest, 209; by an elephant, 322.

Hair, dressing of men, Upper Co 50–51; lack of, on faces of nat 411.
Halford and arrow poisons, 296
Hanamri (boy), 262.
Hari (Zanzibari), 348, 357, 411, 463.

Hassan, Vita, 374.
Hassan (Somali boy), 87.
Hassan-Bakari, 387.
Hassan Sadallah (Zanzibari), 358, 360.
Hassani (cook), 290.
Hawish Effendi, 227, 228.
Health in the Tropics, rules for the preservation of, 15.
Heat apoplexy, 30, 31.
Heister and arrow poisons, 295.
Helouan, cholera cases at, 356–357.
Henry Reed, s.s., 44, 49, 53–60, 67–69, 495–496.
Herodotus and the Mountains of the Moon, 396, 427.
Heron, s.s., 32.
Hillalah, boy, 236.
Hippos, 47, 52, 54, 62, 66, 88, 102, 113.
Hoffmann and bacteria, 169.
Holmes, Mr. E. M., and arrow poison of the Pigmies, 307, 316–319; and description of manioc, 484, 485.
Holmwood, Mr., 17.
Honey in Usambiro, 473.
Hornets' nests, 81, 99, 123, 237, 498, 499
Human form and bacteria, the, 175–176.
Hunt Club at Alexandria, the, 3–4.
Hussey, Dr. 18, 29, 490.
Huts, native, in Yambuya, 65; on Aruwimi, 79; near Panga Falls, 88; attempt to burn our, at Ipoto, 135–136; at Kandekore, 348; of Unyoro, 432; near Albert Edward Lake, 443, 445; in the forest, 498.

Ibrahim Effendi, 409, 410, 421–424, 454.
Ibrahim Telbass, 453.
Ibwiri, country of 195.
Idols on the Congo River, 61; absence of, 221, 267.
Ihuru River, 116, 336.
Ingham, Mr. and Mrs., 34–35.
Ingram, Mr., 335, 510.
Inkissi River, 42, 43.
Inoculation, Prof Touissant and, 177, 178.
Insects; at Ipoto, 139; *pediculus vestimenti*, 139; baked as food, see *Condiment*; flies at Fort Bodo, 273; rats, 208, 257, 272, 279; flies and ulcers, 352; the Pasha and, 388; 459, 486; mosquitoes, 217–219, 229. See also, *Ants*, *Ticks*, *Jiggers*, &c.
"Intelligence department" of natives of the African forest, 77, 78, 211, 212.
Ipoto, Arab settlement of, 116, 123–124, 160; experiences at, 128–159, 179–193, 488, 511; summary of our food at, 288.
Irangara Island, 443.
Irebu village, 56.
Ismailia, 8.
Ismailia, Chief, at Ipoto, 124–159, 179–193; 243, 288, 502.
Itch, 389.
Ituri River, 116, 117, 209–210, 236, 237: fish baskets of, 326; 336, 340, 345, 354.
Ivory; caravans, 42; war-horn, 254.
—— trade, Upper Congo, 56; tusks of, 86; in Africa, 139.
Ivory hunters at Ipoto, 137, 141, 151, 187, 188, 371, 372.

Jameson, J. S., 11, 17, 29, 32, 45, 54, 57, 59, 66–72, 335, 341; and rear column, 360–365; 394, 507, 509, 510.
Jephson, A. J. M., 9, 17, 24, 41, 43; illness of, 49, 56, 59, 64, 75, 81, 123, 134, 205, 209, 227, 415, 424–438, 446, 451; and Zanzibaris, 55; and the *Advance*, 69, 210, 217; the march from Yambuya to Avisibba, 72–90, 94–96; the march from Avisibba to Ugarrowwa's camp, 97–109; the march from Ugarrowwa's to Ipoto, 112–128; and relief of Nelson, 129, 133, 488; at Fort Bodo, 191, 195–198; and Mr. Stanley's illness, 200–204; blood brotherhood with Mazamboni, 213; letter from, 222; arrival of 223–224; to accompany Emin, 227; good-bye to, 232, 233, 239; 287; delay of, 297, 332, 347; letters from, 369, 370; at Kavalli, 374, 382, 390–410; weight of, 396; 431; and Rehani, 419, 420; at Kafurro, 465; conclusion, 510–512.
Jiggers, 45, 84, 500.
Jumba, Ali, 237, 251, 252, 262, 265–267, 320, 501.
Junker, Dr., 8, 9, 11; and Nepoko River, 100.

Kabba Rega, King, 213, 214, 216, 226, 371, 375, 425, 426; see also *Wara Sura*.
Kafurra, 465, 466.
Kajumba's country. 472.
Kambola, under chief, 188.
Kamaroni (Zanzibari), 181, 182.
Kandekoré, camp at 345–370.
Karagwé, 449, 450, 461, 466.
Karema, King, 452, 453.
Kasongo, Tippu Tib at, 361.
Kassai River, 50, 495.
Kassasura, King, 472.
Katari settlement, 448.
Katonza, Chief, 418, 426.
Katto, Chief, 370.
Katwé settlement, 440-442.
Kavalli, Chief, and village, 215, 216, 219, 221, 234, 373–408, 410, 420.
Khamis (Zanzibari), 38, 115, 246, 247; Unyamwezi, 435, 436.
Khamisi, Chief, at Ipoto, 124-159, 189–189, 243
Khartoum, ix, 10.
Khedive, s.s. 227, 230, 231.
Khedive's Orders, the, 226.
Khedivial Club, Alexandria, 2–3, 7.
Kibamwanga, 40.
Kibbo-bora, Chief, 343–345; wives of, 462, 463.
Kibori (Nelson's boy), 257.
Kiengo, 465, 466.
Kilimani, 194, 241, 247.
Kilonga Longa, Chief, 155–159, 179, 181–190, 192, 242–244; men of, 423, 426, 435, 436.
Kiryuama, 426.
Kites, 226, 388.
Klebs and bacteria, 169, 231.
Koch, Prof., and diseases of bacterial origin, 175.
Korbash, the, 382.
Kwamouth, 50, 58.
Kwa River, 50, 51.
Kwilu River, 37, 38.

Lake Shore Camp, 377, 380.
Lamu, 16, 17.
Language near Yambuya, 82.
Latrine for men at Fort Bodo, 272.
Latsche, Dr., 505.
Laveran and bacilli, 231.
Lawson Mount, 451.
Leaves of various plants forming *Mboga*, 486, 487.
Leeuwenhoek, Dutch naturalist, and microbes, 162–163.
Lenda River, 112, 114, 131
Leopold, King, and Tippu Tib, 20, 68; and Emin, 395; welcome by, 514.
Leopoldville, 44, 493–494.
Leucocytes, the, 177.
Lewis, Surgeon, C.B., viii.
Liebrichts, Lieut., 45, 493.
Linant, Lieut., 57, 58.
Linnæus and microbes, 163.
Littré, M., and microbes, 164.
Locusts, 322, 327–328.
Longoli camp, 246.
Lukolela Mission Station, 54, 55.
Lukungu Station, 39, 40.
Lumani River, 361.
Lunionzo River, 37.
Lutete, 41, 42
Lymphatics, inflammation of the, 262.

Mabambi, Chief, 160.
Mabanti, 247.
Mabruki, death of, for deserting, 111; Zanzibari, 150.
Mabruki, Wadi, 222, 226, 229, 236.
Mabunga fruit, 121–122, 486.
Macé and microbes, 231.
Machonga, or wooden spikes, 74, 80, 496, 497.
Mackay's Mission, 453, 470, 473–476, 481.
Mackenzie, Mr., of Zanzibar, 18, 285.
Madura, s.s., 17, 19; rations on board, 23; sickness, &c., on, 489–491.
Mahdi carriers, desertion of, 232–239; and guinea-worms, 271, 272, 330–331; at Kandekoré, 346, 355.
Makabolo, Chief, at Ipoto, 158.
Malafu (banana wine), 235. See also *Pombé*.
Malarial fevers, 73, 476–481, 506–508. See also *Fever*.
Malleju, see *Emin Pasha*.
Malonga, 370.
Mandé Hill, 237; Camp, 345.
Mangola River, 36.
Manioc, 47; at Yambuya, 66, 74, 75, 379–380; description of, 484–485, 490.
Manyuema (ivory hunters), from Lenda River, 114; at Ipoto, 124–159, 183–193, 242–244; and grass cloth, 157, 220; and Bartellot, 364; carriers, 340, 344; women, 344; at Kandékoré, 346–350, 366,

368; at Kavalli, 379; men and women, 463. See also *Kilonga Longa, Ugarrowwa*, &c.
Marco, merchant, 374, 375.
Marsh-miasm, 40.
Marzouki (cook), 300.
Massage, practised by Manyuema, 188; Zanzibaris and, 351.
Massoudi, Zanzibari, 236.
Massowah, the Italians at, 12.
Mataddi, 32–34, 492–493.
Matako (brass rods), 50, 51, 52.
Maxim gun, our, 110, 359, 459.
Mazamboni, Chief, 213, 234, 235, 370–372, 396, 410, 416, 422, 423.
Mbaruku (Zanzibari), 95, 121, 209.
Mboga, leaves of pepper plant, &c., 140, 142, 186, 255, 256, 333, 426; 486–487.
Meat of E.P.R. Expedition, 486.
Medicine-man at Ipoto, the, 187–188.
Melindwa's country, 418.
Merure Lake, 464.
Metammeh, ix, 10, 456.
Meteorology. Rain in Red Sea, 11, 14; heavy rains, 37, 38, 79–81, 84–86, 96, 99, 107, 108, 123, 142, 151, 184, 192, 205, 206, 209, 221, 240, 252, 267, 270, 276, 292, 331, 366, 416, 417, 431; fog, 102; hail, 321; a cold day in Africa, 467.
Microbes, a study of, 161–179, 231.
Milk, microbes and, 179.
Mimosa bush, 228.
Miquel, M., and microbes, 171.
Mirambo, King, 473.
Missionaries, at Mombasa, 17.
Mission Stations at Msalala, 470, 474–476; English, in Africa, 482. See also *French mission stations*.
Mkiyo, Lake of, 440–443.
Mohambey Station, 8.
Mohammed (servant), 7–8; (Nubian), 268, 269.
Mohammed Doud, 10–11, 18.
Mohammed Effendi, wife of, 399–400, 505.
Mohammedans, the Somalis are, 12.
Mohoga, see *Manioc*.
Mombasa, 17.
Monbuttu tribe (*not* the dwarfs), 396; and circumcision, 400–401.
Moon, Manyuema and the new, 185.
Morabo (Zanzibari), 119, 213.
Morrison, Dr., of Suez, 9.
Mountains of the Moon, 217, 220, 233, 396. See also *Ruwenzori*.
Mpinga, Chief, 215, 217, 234, 235, 372, 394, 409, 410.
Mpoko River, 40–41; village of, 46.
Mposo, 34; river, 34.
Mrima, suicide of, 376.
Msalala, 470–476.
Msongari (Zanzibari), 280–282.
Mswa Station, 222, 223, 233, 369, 370.
Mswata, village of, 47–50.
Mtagata, hot springs at, 461–462.
Muéro Lake, 466.
Muftah (boy), 140, 243, 257, 277, 283, 285, 286, 290–292, 297, 325–327, 414, 433, 438, 439, 497, 503.
Mugwye's village, 86–89.
Muini Pembi (Zanzibari), 130, 144.
Muini Soumai, 363.
Müller, and microbes, 163.
Murabo, 429.
Musical instruments of the Balegga, 219, 220.
Muta Nzigé Lake, see *Albert Nyanza*.
Mwanga, King, 452.

Nägeli and microbes, 164, 178.
Native market, near Lutete, 42.
Natives near Mugwye's, 84.
Natives of the Plains, weapons, &c., of, 219.
Navarino, s.s., 9, 12.
Negro, the typical, 10, 12.
Nelson, Captain, 9, 14, 17, 40; down with fever, 43, 49, 54, 82, 148, 153–5, 161, 205, 255, 268, 292, 297, 359, 378, 415, 446, 458; ill with ulcers, 112, 142; with advance guard, 72, 77, 79, 87–89, 91; fight at Avisibba, 91–94; lost in the forest, 95–96; the march from Avisibba to Ugarrowwa's camp, 97–110, 114; starvation camp, 116–117, 502; relief of, 128–133; experiences at Ipoto, 135–159, 179–193, 488; weight of, 150, 154, 276, 327, 396, 417; and causation of disease, 161–162; at Fort Bodo, 194, 207, 238–239, 249, 253; 298–338; as cook, 339; at Kandekoré, 346–370; at Kavalli, 377, 381, 383–410; and Rehan, 418–420; and Semliki River, 427–432; 456; conclusion, 510–512.
Nepoko River, 100.
New Caledonia, poisoned arrows in, 296.

Ngalyema, Chief, 44.
Ngombé, 55.
Nieman, K.A., s.s., 31.
Nile Expedition, the, viii–ix, 120, 212; cooks in Camel Corps, 401–402; and fever in, 456; waters of River, 386.
Nkilama, 43.
Nubiambari (Zanzibari), 228, 229.
Nubian soldiers, our, 9, 11, 19, 20; contrast with the Somalis, 12; vaccination of, 13; and smallpox, 23, 28; and rations, 39; 68, 80, 86; a — wounded, 342–343; 377, 381, 452, 495, 501.
Nutritive comforts taken from Yambuya, 206.
Nyama-Gazani, camp at, 441.
Nyangin, 42.
Nyanza, s.s., 227, 231.

Odours, Arabs and powerful, 137; of African tribes, Emin and, 409.
Omar, Zanzibari chief, 102, 458.
Omar, Nubian chief, 406–407.
O'Nial, Surgeon-General, 4, 5.
Ophthalmia, 459–461, 482.
Orchids, 59, 60.
Orchilla weed, 59.
"Orders" issued by Mr. Stanley, 20–21, 29.
Oriental, s.s., 11, 17, 489.
Ornaments, &c., Upper Congo, 61; of Wahuma tribe, 375.
Ornithology, the Pasha and, 388; pigeons, 47; partridges, 17; birds of Upper Congo, 62; fowls in Africa, 80, 83, 90, 101, 180; waterfowl, 83; hornbill, 84; doves, 85, 255; laurie bird, 85; guinea fowl, 113, 218, 371; hawk, 140; a bird that worries cattle, 216, 217; stork, 300, 444; plover, 300; weaver bird, 328; herons, ducks, &c., 444.
Osmani (Zanzibari), 142; Wadi, 246, 247; (boy), 325.
Ovum, the, 165–166.
Oyster shells at Upoto, 61.

Palaballa, 34–35.
Panga Falls, 87.
Papyrus, 442, 455, 461.
Paré, A., and arrow poisons, 295.
Pari, Chief Hamis, 266, 282–283.
Parke, Dr. T. H., experiences in Egypt and with the Nile Expedition, see *Introduction*; appointed Medical Officer to E.P.R. Expedition, 2–8; at Suez, 9; and Mohammed Doul, 10–11; vaccination of the members of Expedition, 13–17, 22–29; reading the sextant, 14; rules for the preservation of health, 15, 16; introduced to Tippu Tib, 18; at Zanzibar, 17–19; servants, 22; baggage, 30, 34; at the Kwilu River, 37–38; and loss of rifles, 40; disaster at Mpoko River, 41; and medicines, 42; down with fever, 43–46, 48, 51, 52, 64, 73, 117, 118, 227, 230, 235, 270, 280, 290, 329, 352–354, 414, 438, 451, 457, 466, 506–509; and s.s. *Stanley*, 45; on board *Henry Reed*, 53, 54, 56; at Yambuya, 65–73; march through the forest from Yambuya to Avisibba, 74–90; fight at Avisibba, 91–94; lost in the forest, 95–96; the march from Avisibba to Ugarrowwa's camp, 97–109; the march from Ugarrowwa's to Ipoto, 112–124; experiences at Ipoto, 128–159, 179–193, 488; watch presented by Mr. Stanley, 129, 502, 503; letters from Stanley, 130–131; letter to Stanley, 135; weight of, 150, 276, 327, 396, 417; illness of, 153–155, 161; and bacteriology, 161–179; at Fort Bodo, 194–207; and Mr. Stanley's illness, 198–209; and castor oil plant, 199–200; and Emin Pasha, 222, 225; and thought reading, 227; return to Fort Bodo, 232–239; return to Ipoto, 240–244; Mr. Stanley's entry in note-book, 244–6; and pigmy woman, 243, 247, 248, 276, 277, 284, 287–292, 300–307, 313, 323–325, 365, 398, 409, 446, 463–4; life at Fort Bodo, 249–337; and arrow poison of the pigmies, 308–319; and Stairs' dog, 303–307; at Kandekoré, 346–370; and cholera in Egypt, 356–357; at Kavalli, 373–408; and measurement of pigmies, 398–9; and Mr. Stanley's illness, 411–417; and Rehan, 418–420; and blood brotherhood with Bakamuggar, 429, 430; purchases from Mr. Mackay, 481; and accident to Emin, 504–506; conclusion, 509–514.
Parker, Bishop, 476.
Paronychia, 255.

Pasteur, M., and microbes, 171, 178, 385.
Peace, mission steamer, 44, 49, 54–63, 65, 68.
Peas, onions, beans, &c., 262, 278, 284, 297, 300.
Pepper-pods, 263.
Perim Island, 11.
Peritonitis, 34.
Phagocytes, 176.
Phrynium ramosissimum, 434.
Pigmies, the arrow poison of, 308–319. See also *Washenzi*.
Pineapples, 52.
Pisgah, Mount, 209, 210, 345; hostile natives near, 210–213.
Pistia stratiotes, 326, 368.
Plant, a, to keep off mosquitoes, 218.
Plant, leaves of a, and narcotic effect on fish, 325, 326.
——, salt extracted from a water, 326, 368.
Plantains, 64, 96, 98, 104, 106; 113, 195, 196, 483–484; flour, 109.
Pneumonia cases, 22, 29, 34, 432, 445. 489.
Poison for arrows, preparation of, 300–307; paper on, 308–319.
Poisoned wounds, M. Rochard and, 294–296.
Pombé (banana wine), 332, 433, 439, 470.
Ponta da Lenha, 31, 32.
Port Elizabeth, 24.
Potato, varieties of, 291, 486.
"Poteen," manufactured by Emin's people, 232, 376, 388, 389.
Presents, African chiefs and, 57, 138,
Preservation of health in the tropics, rules for the, 15.
Provisions, European, 486, 499; taken from Yambuya, 269–270, 339; supplied us at Ipoto. 288.
Ptomaines, 174, 177, 231.
Pumpkins, at Fort Bodo, 273, 278, 284; water melons, 275, 434.

Rainmaker, the, in Africa, 221, 267.
Rain-water, 384, 385.
Ramadán, fast of, 55, 56, 238.
Randy, Mr. Stanley's fox terrier, 27, 113.
Rashid, Chief, 116, 127, 369, 370, 471.
Ras Sufsáfeh, 9.
Rear column, letters to, 197, 232; wreck of, 335–339; Bonny's account of, 360–367.
Red Sea, 11, 14.
Rehan (Zanzibari), 119, 183; execution of, 418–420.
Rejaf Station, 369.
Reproduction of bacterium, the, 173,
Reptiles, 486; crocodiles, 54, 88, 218, 237, 298; snake at Fort Bodo, 276.
Rice crop at Fort Bodo, 322, 327–328.
Richalman, Captain, 505.
Richards, Mr. and Mrs., 37.
Roads at Fort Bodo, 196; near Lake Albert, 232.
Robin, Chas., and microbes, 164.
Rochard, M., and wounds, 294–296.
Royle, Mr. Chas., 9.
Ruanda territory, 449, 470.
Rukoki River, 444.
Rushdi Effendi, 440.
Ruta Nzigé Lake, see *Albert Edward Nyanza*.
Ruwenzori, 395, 396, 417, 423, 427, 432, 433, 439. See also *Mountains of the Moon*.
Rwizi River, 455.

Saadi (Zanzibari), 107.
Saat Tato, the hunter, 96, 222, 226, 229, 429.
Sadi, Manyuema chief, 405.
Sali, boy, 201, 397.
Salim, Tippu Tib's brother-in-law, 38, 490.
Salt, 210; extracted from a water plant, 326, 368; in Lake Mkiyo, 440–443.
Sandals of Manyuema, 186, 187.
Sanford expedition, 49, 56.
Sangarameni, Chief, at Ipoto, 124–159, 180–189, 243.
Sanitation, natives on the Aruwimi banks and, 76–77.
Saraboko (Zanzibari), 149.
Schmidt Herr, 505.
Sedillot and microbes, 164.
Segmentation of bacterium, the, 173.
Selim Bey, 392, 420.
Semliki River, 220, 424. 426: valley, 427; crossing the, 429–431.
Serpa Pinto, s.s., 31.
Sesame oil, 378.
Sextant, reading the, 14.
Sexton, Dr. W. H., grave of, 31.
Shaban Majera, 472.
Shark, 16.

[illegible]
[illegible]
[illegible]

Summary of Dr. Parke's professional experiences, 487–504.
Sunstroke, 33, 58, 196, 197, 455, 457, 477, 489, 496.
Superstition in Africa, 301, 470, 471.
Synovitis, Zanzibaris and, 351.
Syphilis, 401.

Tabloid system of medicines, 357, 358.
Tænia mediocanellata, 271.
Tamarind trees, 218.
Teeth of Zanzibaris, 275, 491.
Tel Basta, near Zagazig, 8.
Temperature, 29, 30, 32, 34, and bacteria, 172–173; at Fort Bodo, 299; 456.
Tents of expedition, 340, 341.
Tetanus, deaths from, 97, 98, 99, 296, 301, 304, 501.
'*The Times*' of April 27, 1886, 216.
Thought reading experiments, 227.
Thuret and microbes, 163–164.
Ticks, 84, 88, 126, 186, 499, 500.
Tippu Tib, introduction to, 18; and followers, 19–21, 38; and harem, 53, 54, 56, 58; and carriers, 66, 360–365; and Stanley Falls Station, 67; raid of people, 74; and followers on board s.s. *Madura*, 490–491; on board *Henry Reed*, 494–496.
Tobacco cultivation, 50, 106, 151, 210, 255, 258, 262, 348.
Tornado, in the forest, 79; at Ipoto, 142, 158; at Fort Bodo, 263, 366.
Toro Hills, 443–448.
Touissant, Prof., and microbes, 177–178.
Trap for elephants, dwarfs', 398.
Trees in the Central African forest, 75, 76.
Troup, Mr. J. R., 69, 241, 335, 361–365, 510.
Tun-dish, a, 83.

Uganda, insurrection in, 404, 405, 452, 453.
Ugarrowwa, Chief, 103, 104; and men, 106; visit to camp of, 108–109; sick left with, 110; sends us three deserters, 111; work of desolation, 112; 197, 238, 501, 502.
Uhopo, 426.
Ulcers, 22, 60, 88, 100, 112, 113, 139, 180, 185, 196, 207–209, 238, 243, 256, 262, 300, 331, 336, 344, 347, 349–355, 369, 389, 390, 502.
Uledi, Chief, 31, 41, 127, 130, 131, 137, 192, 193, 230, 236, 349, 358, 429.
Uledi Saadi, 435.
Ulya (Zanzibari), 390.
Umari, Chief, 116, 181–184, 189, 382.
Unyampaka, 443, 447.
Unyoro, King of, see *Kabba Rega*.
Upoto, 60, 61.
Uranga village, 56.
Urigi, Lake, 467.
Usambiro, 472, 474, 481.
Usinde village, 55.
Usongora, 443; Lake, 417.
Usui, King of, 472.
Usukuma, 473.

Vaccination of all the members of the expedition, 13–17, 22–29, 489–490.
Van Gele, Capt., 56.
Vegetable forms, microbes and, 164.
Venomous wounds, Rochard and, 294.
Vermin, at Ipoto, 126, 146, 151, 219. See also *Insects*.
Victoria Nyanza, 470–475.
Villages on banks of Aruwimi, 83.
Village, new, at Ipoto, 152–153.
Virulent wounds, M. Rochard and, 294.
Vise, Lieut. Howard, 81.
Vivisection, Stair's dog, effect of arrow poison on, 304–307.
Vombo, 39.

Waganda, 449, 452.
Wahuma tribe, 216, 217, 220, 374, 375, 383; dress of, 397; dress of women, 406; guides, 445.
Wakefield, Rev. Mr., 17.
Walker, Mr., 26, 31, 32, 49, 335, 510.
Wambutti (dwarfs), wives of, 323. See *Washenzi*.
Wanyamwezi, 458, 473.
Wara Sura, Kabba Rega's men, 213, 214, 428–430, 434, 440, 443–448.
Ward, Mr., 49, 50, 53, 69, 241, 335, 361–365, 510.
Waregga tribe, 383.
War office, the, 4.
Washenzi, the, 139, 145, 146; village of, 195; and castor oil plant, 199; near Fort Bodo, 251, 252, 268,

269; camping-ground of, 321, 322; measurement of, 397–399, 402.
Wasongora, the, and bananas, 300; wives of, 323.
Water-supply at Kavalli, 378, 383.
Waters, division of different, 384–387, 499.
Water-tanks at Aden, 13.
Wedding festival in Equatoria, a, 401.
Windermere, Lake, 464, 465.
Wissman, Major, 503.
Wood, ironwood, 48.
Wooden rest for neck of natives, Upper Congo, 51.
——— spikes of natives, 74, 80, 496, 497.
——— button in lips of Bavira women, 388.
Worms, tape and round, 224–225, 271; in a fish, 285. See also *Entozoa*.
Wounds, division of, 294–296.

Yakouti (Zanzibari), 334.
Yambuya, 64–72; rear column at, 73, 335–341: list of nutritive comforts taken from, 206; return to, 238–241, 244; goods left at, with Major Bartellot, 244–245; provisions taken from, 269–270; Bonny's account of rear column at, 360–367; deaths at, 379–380; Stairs at, 496.
"Yellow bellies" (Emin's people), 401, 454.
Yusuf Effendi, 410, 446.

Zagazig, 8.
Zanzibar, 17–19; Sultan of, 285.
Zanzibaris, our, 10, 19–20, 44; and small-pox, 23–24, 28; and the invalids, 33; and swimming, 38; and Soudanese, 42; and Lower Congo, 47; and Stairs, 55; food of, 56, 59; advance guard, 71–72; mode of carrying loads, 73; desertions of, 82, 105, 108; and fowls, 83–84; without food, 85; murder of a, 90; and the wet weather, 96; excuses of, 97; strange behaviour of, 99–100; work of, 102–103; a fact, 114; recklessness of, 115; a — chief, 127; and relief of Nelson, 129, 133; at Ipoto, 136, 140, 156, 157, 181–183, 188, 189, 197; lack of good-nature among, 185–186, 236–237, 354; and castor-oil plant, 199–200; at Fort Bodo, 203, 204; and Emin's arrival, 223; looting of, 228, 229; and walking, 234; at Fort Bodo, 251–327; of rear column, 335–339, 360–367; dirty habits of, 343, 345, 350; at Kandekoré, 346–350; and medicine, 369; at Kavalli, 375–396; and cooking, 402; Omar and, 407; and Wara Sura, 430; and Queen Victoria, 432; 455, 457, 460, 469, 487–489, 493; and manioc, 494; and food, 500; 501–503, 512.
Zoology: — Gazelle, 17; elephants, 41–42, 47, 51, 54, 62, 83, 86, 112, 113, 117, 118, 121, 152, 218, 240, 254, 276, 284, 291, 298, 305, 320, 328, 330, 445, 495; antelopes, 41, 114, 218, 226, 444; buffalo, 47, 54, 218, 226, 368; monkeys, 59, 62, 292; lemur, 149; kudu, a, 222; springboks, 222; sheep, 237, 262; cows, 237; pig, 260; leopard, 368; hyænas, 417, 420; giraffes, 444; rhinoceros, 462; zebra, 472.

LONDON: PRINTED BY WILLIAM CLOWES AND SONS, LIMITED, STAMFORD STREET AND CHARING CROSS.

My personal experiences in equ
Stanford University Libraries
3 6105 041 530 853
STANFORD UNIVERSIT
CECIL H. GREEN
STANFORD, CALIFORNI
(415) 723-1
All books may be recalle
DATE DUE
DEC 7 1995
JUN 30 1996
MAR 19
MAR 3 1 1998
JUN
MAY